Health and Social Service Personnel Working In Alberta, 1989

Alberta

HEALTH AND SOCIAL SERVICES
DISCIPLINES COMMITTEE

Health and Social Service Personnel Working in Alberta, March 31, 1989

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1. Introduction

A survey of health and social service employers was conducted on March 31, 1989 by the Alberta Health and Social Services Disciplines Committee. This survey, which has been conducted annually for the past 14 years, collects information on health and social service manpower working in Alberta. The survey requests employers to provide specific information on full-time and part-time permanent personnel, vacant positions, resignations, casual/contract personnel, and employer recruitment difficulties. Overall, employer response to the 1989 survey was excellent; a total of 5,338 employers were mailed the questionnaire and of these, 98.8 percent responded. Some highlights from the survey are provided below.

2. Highlights of the Report

Permanent Personnel

- The employers surveyed reported a total of 80,255 full-time and part-time permanent personnel in 1989. This represents an increase of 3,925 (5.1%) permanent personnel from 1988.
- An analysis of the employment settings of the permanent personnel reported in 1989 reveals that a total of 37,205 (46.4%) of health and social service personnel were employed in institutional work settings.
- Registered nurses were the largest occupational group included in the survey. A total of 17,810 permanent full-time and part-time registered nurses was reported in 1989. This occupational group has shown a moderate growth of 969 (5.8%) in the number of permanent personnel from 1988.
- In 1989, a total of 10,234 full-time and part-time personnel was reported working in non-RN nursing occupations.[1] The number of personnel in non-RN nursing occupations increased by 517 or 5.3 percent from 1988 to 1989.
- A total of 6,404 permanent personnel was employed in rehabilitation occupations in 1989. The greatest personnel growth among the rehabilitation occupations occurred for rehabilitation practitioners, where the number increased by 115 (8.5%), and for occupational therapists where the number increased by 55 (15.0%) in 1989.
- Child care personnel employed in day care centres grew by a total of 445 (7.7%) in 1989. The total number of full-time and part-time child day care personnel reported in 1989 was 6,221.
- The number of personnel employed in diagnostic/therapeutic occupations grew from 5,128 in 1988 to 5,634 in 1989. One of the largest personnel increases within the diagnostic/therapeutic occupations was seen for medical laboratory technologists where the number increased by 155 (6.4%) in 1989. Notable percentage increases in the number of personnel from 1988 to 1989 occurred for electrocardiographic technologists (28.6%), nuclear medicine technologists (23.3%), diagnostic medical sonographers (23.6%), and combined laboratory/x-ray technicians (19.6%).
- Personnel employed in social work/social service occupations increased by a total of 435 or 14.2 percent from 1988 to 1989. Within this occupational category, the largest increases in the number of personnel were seen for social work personnel with no university degree or social service diploma where the total number grew by 113 (26.9%) and for social workers with a social service diploma who increased by 109 (39.6%).

Percent Part-time Permanent Personnel

- Overall, the proportion of part-time to full-time permanent personnel did not change between 1988 and 1989; for both years, 33 percent of permanent personnel were reported working part-time.
- Dental hygienists, with 49 percent part-time personnel, had one of the highest proportions of part-time to full-time personnel.
- Other occupations which had comparatively high proportions of part-time personnel included registered nursing assistants (47%), combined laboratory/x-ray technologists (43%), registered nurses (42%), physical therapists (38%), medical x-ray technologists (36%), pharmacists (33%), occupational therapists (33%), psychologists (32%), and speech therapists (29%). Among these occupations, speech therapists experienced the greatest growth in part-time personnel from 1988 (23%) to 1989 (29%).

Vacancy Rates

- The vacancy rate for all health and social service occupations combined increased from 3.2 percent in 1988 to 5.4 percent in 1989.
- Registered nurses had one of the greatest vacancy rate increases from 1988 (4.0%) to 1989 (8.2%).
- The rehabilitation occupational group had the highest overall vacancy rate (9.4%) of all the occupational groups surveyed. Within this occupational category, relatively high vacancy rates were observed for physical therapists (17.6%), prosthetists/orthotists

[1] Non-RN nursing occupations include graduate nurses, registered psychiatric nurses, registered nursing assistants, operating room technicians, mental deficiency nurses, and other nursing staff not included in any of the occupations listed.

(14.9%), occupational therapists (13.8%), rehabilitation practitioners (10.1%), and speech therapists (9.7%).

Turnover Rates

- The 1989 turnover rate for all health and social service occupations combined was 14.0 percent. No substantial change was observed in the overall turnover rate from 1988 to 1989.
- Child care personnel employed in day care centres experienced the highest turnover rate of any occupational group surveyed. The turnover rate of 28.5 percent observed for day care personnel was more than double the turnover rate of all health and social service occupations combined.
- Child/youth care personnel employed outside day care centres also had a comparatively high turnover rate of 27.2 percent. In addition, this occupational group experienced the highest turnover rate increase from 1988 (20.4%) to 1989 (27.2%).
- Within the rehabilitation occupational category, comparatively high turnover rates were seen for recreational therapists (20.8%), rehabilitation practitioners (19.0%), physical therapists (19.4%), and occupational therapists (18.3%).
- Among diagnostic/therapeutic occupations, relatively high turnover rates were seen for radiation/oncology technologists (20.8%), nuclear medicine technologists (19.0%), and diagnostic medical sonographers (18.1%).

Contract/Casual/Temporary/Relief Personnel

- There was a total of 12,697 contract/casual health and social service personnel reported by employers in 1989.
- Relatively large numbers of contract/casual personnel were reported for registered nurses (5,311), registered nursing assistants (1,504), rehabilitation aides (638), and pharmacists (439).

Recruitment Difficulties

- Employers were asked to identify the positions that had been vacant three months or longer on March 31, 1989, while recruitment activities had been in progress. Of the 936 employers who had reported a vacancy on March 31 (excluding day care centres and post-secondary institutions), 421 (45.0%) reported that one or more vacancies had been vacant for three months or longer.
- A relatively high percentage of full-time equivalent three month vacancies was noted for registered nurses (24.8%), physical therapists (60.9%), dental hygienists (74.0%), pharmacists (51.3%), respiratory therapists (30.8%), occupational therapists (39.8%), and speech therapists (42.4%).
- Employers were also asked whether they anticipated difficulties in recruiting health and social service personnel over the next year. Among the employers who were asked this question, 1,045 (22.6%) indicated that they did anticipate recruitment difficulties over the next year.
- Employers expected recruitment difficulties for some occupations more than others. More specifically, 27.7 percent (213) of the employers of pharmacists, 44.3 percent (210) of the employers of dental hygienists, 45.0 percent (158) of the employers of physical therapists, and 26.8 percent (41) of the employers of occupational therapists, anticipated that these occupations would be difficult to recruit in 1990. Employers of registered nurses identified general duty nurses (41.6%) and long-term care nurses (40.6%) in particular, as difficult to recruit. In general, employers cited a shortage of available personnel most frequently as the reason for anticipated recruitment problems.

3. Survey Methodology

A total of 5,338 employers of health and social service personnel were identified for the 1989 employer survey. These employers were mailed a survey form, along with a cover letter, and a pre-stamped envelope during the month of March, 1989. When applicable, a letter of endorsement supporting the survey from a professional association was also included in the mail-out package. The cover letter requested employers to return the survey by May 1, 1989. Additional mail-outs and telephone follow-ups were conducted as necessary for those employers who had not responded by May 16, 1989.

In the study, 22 different survey forms were utilized. The survey forms varied primarily in terms of the occupations included in the questionnaires. For each survey form, only the occupations applicable to a particular health and social service employer group were listed. With the exception of the survey forms mailed to ambulance operators, day care centres, and post-secondary institutions, each questionnaire was divided into three main sections.

SECTION A included a list of health and social service occupations and their definitions. For each occupation, the employer was asked to indicate the number of full-time and part-time personnel employed on March 31, 1989, the number of full-time and part-time vacant positions on March 31, 1989, and the total number of full-time and part-time resignations which occurred during the period between April 1, 1988 and March 31,

1989. As mentioned earlier, the occupations listed in Section A were tailored to specific employer groups. Occupations which did not apply to a particular employer were left blank and space was provided for the employer to specify other occupations not included in the list.

SECTION B asked the employer whether any casual, contract, temporary, or relief personnel were employed between April 1, 1988 and March 31, 1989. Those employers who indicated that they did employ casual/contract personnel were requested to specify the occupation for which casual/contract personnel were employed, the total number of casual/contract personnel employed within these occupations, and the total number of hours worked by casual/contract personnel within each occupation. To encourage employer response, a number of occupations were explicitly listed for the employer. The occupations listed in Section B were the same for all employers: registered nurses, registered nursing assistants, physical therapists, occupational therapists, psychologists, social workers, dietitians/nutritionists, pharmacists, audiologists/speech pathologists, and dental hygienists. A category for 'other' occupations was also provided. Section B was not included in the survey forms given to day care centres, ambulance operators, and post-secondary institutions.

SECTION C was divided into two parts, both of which collected information on difficult to recruit occupations. Part 1, which was included in the employer survey for the first time in 1989, was designed to quantify employer recruitment difficulties. Employers were asked whether any of the vacant positions reported in Section A had been vacant three months or longer while recruitment activities had been in progress. For these long-term vacancies, employers were requested to specify the occupations involved as well as the number of full-time and part-time positions that had been vacant for three months or longer within each of these occupations. Part 2 asked whether the employer anticipated difficulties in recruiting health and social service personnel in the next year. Employers were requested to list the occupations for which they anticipated recruitment difficulties and the reasons for the anticipated staffing difficulty. Section C was not included in the survey form mailed to day care centres and post-secondary institutions.[1]

In all, there were 134 occupations included in the survey. These occupations were defined by a number of different criteria including duties performed, education or training, and, for the occupations with a reserved title, registration with the appropriate governing body. Some notable occupational groups, such as physicians, dentists, chiropractors, optometrists, and podiatrists, which collect occupational data through their own professional associations, were not included in the survey.

Instructions for completing the survey were given on the first page of the survey form. Employers were instructed to apply the following definitions when completing the survey:

Persons employed:	all individuals employed by your organization on a regular full-time or part-time basis
Full-time:	thirty hours or more per week
Part-time:	less than thirty hours per week
Vacancies:	positions for which personnel are actively being recruited as of March 31, 1989.
Resignations:	individuals who terminated employment during the one year period from April 1, 1988 to March 31, 1989. Do not include persons who have been promoted or transferred.
Casual, Temporary, Contract, or Relief Personnel:	individuals who worked on-call, relief, or on a temporary basis and did not fill a regular full-time and/or part-time position. These individuals were paid directly through your organization or through an outside agency.

4. Survey Response Rates

The survey of health and social service personnel working in Alberta was mailed to a total of 5,338 different employers. Of these employers, 5,274 completed the survey, resulting in an overall response rate of 98.8 percent.

Table 1 provides a breakdown of the response rate for each employer group surveyed. The table indicates an excellent response rate for each group listed; a response rate of 100 percent was achieved for 21 of the 32 employer groups surveyed. The lowest response rates occurred for dental laboratories (95.5%) and day care centres (95.9%).

It is important to recognize that a response failure by an employer will have an impact on the manpower population figures produced by this survey report. The extent to which non-responding employers have affected the survey population figures has been estimated in the table presented in Appendix 1. The table reveals that the effect of employer non-response on the survey results

[1]The survey forms mailed to post-secondary institutions included the section on three month vacancies and anticipated recruitment difficulties. A small number of post-secondary institutions responded to this section. These responses, however, were not tabulated and are not available for data analysis.

TABLE 1. SURVEY RESPONSE RATE BY EMPLOYER GROUP
MARCH 31, 1989

EMPLOYER GROUP	NUMBER EMPLOYERS RESPONDING	NUMBER OF EMPLOYERS CONTACTED	RESPONSE RATE (%)
AADAC/FCSS*	175	175	100.0
AMBULANCE OPERATORS	120	120	100.0
COMMUNITY AGENCIES	292	292	100.0
CORRECTIONAL CENTRES	63	63	100.0
DAYCARE CENTRES	614	640	95.9
DENTAL LABORATORIES	85	89	95.5
DENTISTS' OFFICES	837	847	98.8
DENTURE CLINICS	151	154	98.1
DEPARTMENT OF HEALTH	61	61	100.0
DEPT. OF SOCIAL SERVICES	90	90	100.0
GROUP HOMES	97	97	100.0
HEALTH UNIT OFFICES	139	139	100.0
HOSPITALS, 0-25 BEDS	37	37	100.0
HOSPITALS, 26-49 BEDS	43	43	100.0
HOSPITALS, 50-99 BEDS	26	26	100.0
HOSPITALS, 100-299 BEDS	13	13	100.0
HOSPITALS, 300+ BEDS	10	10	100.0
HOSPITALS, AUXILIARY	73	73	100.0
HOSPITALS, PSYCHIATRIC	2	2	100.0
HW CANADA/INDIAN AFFAIRS	44	44	100.0
MEDICAL CLINICS	276	281	98.2
MEDICAL LABORATORIES	158	160	98.7
NURSING HOMES	86	86	100.0
OPHTHALMIC DISPENSERS	183	183	100.0
OPHTHALMOLOGISTS	51	52	98.1
OPTOMETRISTS	156	160	97.5
PHARMACIES	650	655	99.2
PHYSICAL THERAPISTS	144	144	100.0
POST-SECONDARY INSTITUTIONS	37	37	100.0
PRIVATE INDUSTRY	94	95	98.9
PSYCHOLOGISTS	322	325	99.1
SCHOOL BOARDS	145	145	100.0
RESPONSE RATE	5274	5338	98.8

* Alberta Alcohol and Drug Abuse Commission/Family and Community Support Services

was small. In total, the table estimates that 571 permanent personnel were unreported due to failure to respond to the survey. This represents only 0.7 percent of the 80,255 health and social service personnel reported in the survey. The majority of the 571 unreported personnel were employed in day care centres (260), medical clinics (163), and dentists' offices (64). In these employer settings, the table indicates that 4.2 percent of day care personnel, 8.1 percent of medical clinic personnel, and 1.6 percent of dental office personnel were unreported. Thus, there appears to have been a small under-reporting bias for some health and social service personnel, particularly for those occupations employed by medical clinics. In general, however, the effect of employer non-response on the survey population figures appears to have been minimal.

5. Permanent Personnel

The employers surveyed reported the number of permanent personnel employed on March 31, 1989. It should be noted that an exception to this reference date occurred for one large hospital (+300 beds) which reported the number of personnel employed on November 30, 1989, rather than on March 31, 1989.

5.1 Permanent Personnel by Occupational Category

Table 2 provides a summary of full-time and part-time personnel by occupational group for 1988 and 1989. The specific occupations contained within each occupational group in Table 2, along with a more detailed description of part-time and full-time personnel for 1989 are presented in Appendix 2.

Table 2 indicates that a total of 80,255 permanent full-time and part-time personnel was reported by employers in 1989. This represents an increase in number of permanent personnel of 3,925 (5.1%) from 1988.

Registered nurses with 17,810 full-time and part-time personnel, represented the largest occupational group in the survey. The number of permanent registered nurses increased by 969 (5.7%) from 1988 to 1989. The increase in the number of registered nurses was most dramatic in the following specialties: intensive care which increased by 155 (13.7%); medical/surgical which increased by 375 (9.8%); maternal/child care which rose by 124 (23.5%); pediatrics which grew by 180 (40.2%); and finally, home care nursing which increased by 97 (20.1%). Overall, there was an increase in the percentage of registered nurses working part-time; the percentage of part-time personnel rose to a substantial 42 percent while the percentage of full-time personnel dropped to 58 percent.

The number of permanent personnel working in **non-RN nursing occupations**[1] increased by a total of 517 (5.3%) from 1988 to 1989. Registered nursing assistants, where the number increased by 119 (3.0%) from 1988 accounted for a notable proportion of the increase in non-RN nursing personnel. Significant percentage increases in the number of personnel from 1988 were observed for psychiatric nurses, who increased by 77 (11.4%) and for operating room technicians who increased by 45 (43.3%).

A total of 6,404 permanent personnel was employed in **rehabilitation occupations** in 1989. Almost all of the occupations within the rehabilitation category experienced small increases in the number of personnel for 1989. The greatest growth in rehabilitation personnel was seen for rehabilitation practitioners, whose number increased by 115 (8.5%), and for occupational therapists, who increased by 55 (15.0%).

The number of **child care personnel** employed in day care centres grew by a total of 445 (7.7%) in 1989. The rise in the number of day care personnel was due, in part, to the higher survey response rate for day care centres in 1989; the number of day care centres responding to the survey rose from 598 in 1988 to 614 in 1989. Overall, the increase in child care personnel was observed only for full-time staff; full-time personnel rose by 525 while part-time personnel decreased by 80.

Diagnostic and therapeutic personnel increased by a total of 506 (9.9%) in 1989. The increase was proportionally larger for full-time personnel compared to part-time; full-time increased by 334 while part-time increased by only 172. The largest increase in the number of personnel within the diagnostic and therapeutic occupations was seen for medical laboratory technologists who increased by 155 (6.4%), and for respiratory therapists who increased by 113 (35.6%) in 1989.[2] Notable percentage increases in the number of personnel from 1988 to 1989 were observed for electrocardiographic technologists (28.6%), nuclear medicine technologists (23.3%), diagnostic medical sonographers (23.6%), and combined laboratory/x-ray technicians (19.6%).

Social work and social service personnel increased by a substantial 435 or 14.2 percent in 1989. The rate of increase in full-time and part-time social work/service personnel was proportionally equivalent; the ratio of 10

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[1] Non-RN nursing personnel includes graduate nurses, registered psychiatric nurses, registered nursing assistants/orderlies, operating room technicians, mental deficiency nurses, and other nursing personnel not elsewhere classified.

[2] It should be noted that the rise in respiratory therapists was due, at least in part, to the expansion of the 1989 mailing list to include independent companies providing respiratory services.

TABLE 2. NUMBER AND PERCENTAGE OF PERMANENT PERSONNEL EMPLOYED ON A FULL-TIME AND PART-TIME BASIS, BY OCCUPATIONAL GROUPS, MARCH 31, 1988 AND 1989*

OCCUPATIONAL GROUP	1988				1988	1989				1989
	FULL-TIME		PART-TIME			FULL-TIME		PART-TIME		
	NUMBER	PERCENT	NUMBER	PERCENT	TOTAL	NUMBER	PERCENT	NUMBER	PERCENT	TOTAL
AMBULANCE PERSONNEL (PAID AND VOLUNTEER)	911	45	1124	55	2035	948	44	1213	56	2161
CHILD/YOUTH CARE PERSONNEL	1323	77	398	23	1721	1376	75	449	25	1825
CHILD DAY CARE PERSONNEL	4693	81	1083	19	5776	5218	84	1003	16	6221
CORRECTIONAL PERSONNEL	1698	97	59	3	1757	1792	97	52	3	1844
DENTAL PERSONNEL	2763	78	800	22	3563	2802	77	846	23	3648
DIETARY PERSONNEL	2121	50	2124	50	4245	2114	51	2044	49	4158
EYE CARE PERSONNEL	796	79	209	21	1005	871	82	188	18	1059
HEALTH RECORDS PERSONNEL	591	72	227	28	818	582	70	255	30	837
HOME CARE PERSONNEL	354	20	1391	80	1745	378	22	1341	78	1719
DIAGNOSTIC/THERAPEUTIC PERSONNEL	3680	72	1448	28	5128	4014	71	1620	29	5634
REGISTERED NURSE PERSONNEL	10150	60	6691	40	16841	10389	58	7421	42	17810
NURSING PERSONNEL (NON-RN)	5705	59	4012	41	9717	5670	55	4564	45	10234
OCCUPATIONAL HEALTH PERSONNEL	106	52	97	48	203	57	98	1	2	58
PHARMACEUTICAL PERSONNEL	1686	66	868	34	2554	1784	66	910	34	2694
PSYCHOLOGICAL PERSONNEL	914	66	462	34	1376	1013	66	515	34	1528
PUBLIC HEALTH PERSONNEL	185	94	12	6	197	229	95	12	5	241
REHABILITATION PERSONNEL	4680	75	1528	25	6208	4655	73	1749	27	6404
SOCIAL WORK/SERVICE PERSONNEL	2770	90	299	10	3069	3159	90	345	10	3504
PROGRAM ADMIN/CLERICAL SUPPORT	6137	76	1903	24	8040	6503	77	1930	23	8433
OTHER HEALTH CARE/SERVICE PERSONNEL	247	74	85	26	332	188	77	55	23	243
TOTALS	51510	67	24820	33	76330	53742	67	26513	33	80255

*The occupations included within each occupational group presented in the table have been expanded from the the occupational groups in the 1988 report to include 'other' related occupations.

percent part-time to 90 percent full-time personnel did not change from 1988 to 1989. All categories of social work personnel experienced an increase in 1989. The largest increase in the number of personnel in the social work/service category occurred for personnel having no university degree or social service diploma, where the total number grew by 113 (26.9%) and for social workers with a social service diploma who increased by 109 (39.6%). A significant percentage increase in the number of personnel from 1988 to 1989 was seen for social service aides who increased by 37 (35.9%) and for social workers with a related Master's degree in social work who increased by 21 (29.6%) in 1989.

Most of the other occupational groups presented in Table 2 also showed an increase in the number of permanent personnel employed from 1988 to 1989. In particular, the number of ambulance personnel increased by a total of 126 (6.2%), pharmaceutical personnel grew by a total of 140 (5.5%), and finally, the number of psychology personnel increased by 152 (11.0%). Table 2 also indicates that clerical support and program administration personnel rose by 393 or 4.9 percent in 1989. This increase was largely attributable to an increase in the number of clerical support personnel, who grew by 384 in 1989.

Table 2 reveals a decline in the number of personnel employed in 1989 for some occupational categories. Occupational health, in particular, decreased by 145 personnel or 71.4 percent in 1989. This decrease was due, in part, to the update and revision in 1989 of the mailing list for employers of occupational health personnel. The revision of the mailing list from 1988 to 1989 undermines the validity of comparisons in the number of occupational health personnel reported between these years.

A comparison of the number of personnel in other occupational categories between 1988 and 1989 indicates that there was a small decrease of 87 personnel (2.0%) for dietary occupations. Home care occupations which include homemakers, homehelpers, and personal care attendants, also decreased slightly in 1989 by 26 personnel (1.5%). In addition, the miscellaneous "other health care and social service personnel" category experienced a decline of 89 personnel (26.8%) in 1989. With the exception of these occupational declines, every other occupational category presented in Table 2 reveals an increase in health and social service personnel.

5.2 Distribution of Permanent Personnel Among Selected Occupational Groups

Figure 1 displays the percentage of permanent health and social service personnel working within selected occupational groups. It should be recognized that the percentages are based only on the occupational groups surveyed in this report. Personnel from major occupational groups, most notably, physicians, dentists, chiropractors, optometrists, and podiatrists were not surveyed and are not included in the percentage calculations.

Figure 1 indicates that of the occupations surveyed, registered nurses represented the largest percentage; 22.2 percent of the health and social service personnel reported by employers are registered nurses. Another 12.8 percent of the health and social service personnel was found in non-RN nursing occupations. In total, all of the nursing related occupations accounted for 35.0 percent of the personnel reported in the survey. Personnel employed in rehabilitation and day care occupations each accounted for almost 8 percent of personnel. A small, but noteworthy, number of personnel were found in laboratory/diagnostic occupations (7.0%), dietary occupations (5.2%), and dental occupations (4.6%). This occupational distribution of health and social service personnel has changed very little from 1988; the largest change occurred for dietary personnel whose relative percentage decreased by a marginal 0.4 percent.

5.3 Percent Part-time Permanent Personnel

In 1989, full-time personnel increased by 2,232 while part-time personnel increased by 1,693. The total proportion of part-time to full-time personnel did not change between 1988 and 1989; for both years, 33 percent of health and social service personnel were reported working part-time.

Figure 2 displays the percentage of part-time permanent personnel among selected health and social service occupations. It should be recognized that the percentages of part-time personnel may be over-estimated due to double counting of the same part-time staff between different employers. Keeping this potential bias in mind, Figure 2 indicates that dental hygienists, at 49 percent part-time, had the highest percentage of part-time personnel. The percentage of part-time dental hygienists decreased by only 1 percent since 1988. The largest increase in the percentage of part-time personnel occurred for speech therapists, who rose from 23 percent part-time in 1988 to 29 percent part-time in 1989. The percentage of part-time personnel among registered nursing assistants, physical therapists, and occupational therapists each increased by 4 percent from 1988. None of the remaining occupations in Figure 2 changed in the proportion of part-time by more than two percentage points from 1988.

Other occupational groups with high percentages of part-time personnel which were not included in Figure 2 need to be recognized; these include dietary occupations which had 49 percent part-time employment, and home care

Figure 1.
PERCENTAGE OF PERMANENT PERSONNEL IN SELECTED HEALTH AND SOCIAL SERVICE OCCUPATIONAL GROUPS
MARCH 31, 1989

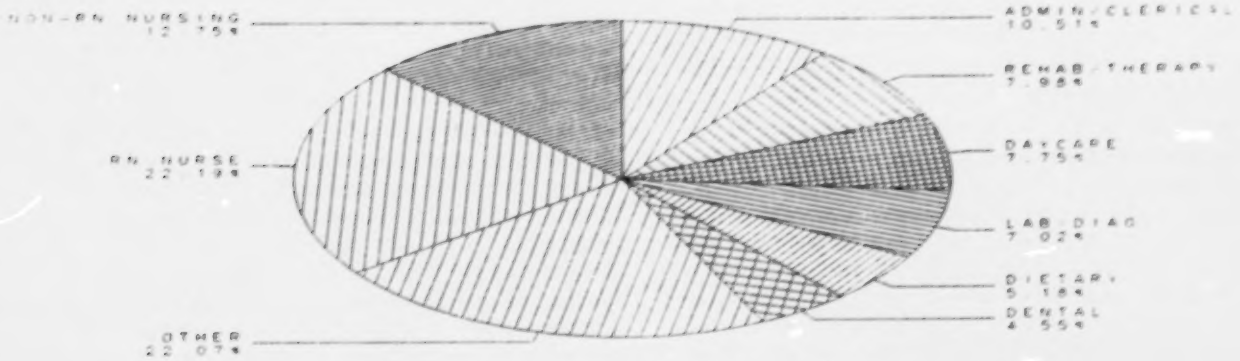
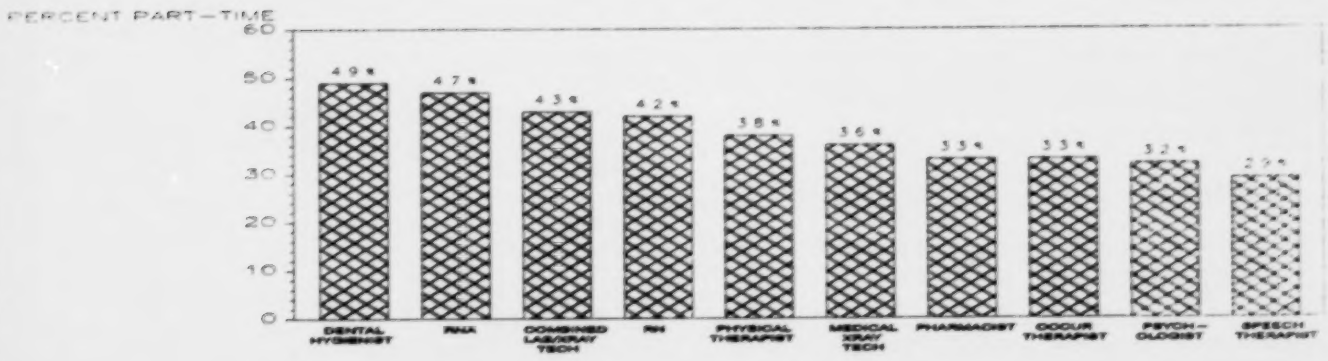


Figure 2.
PERCENT PART—TIME PERMANENT PERSONNEL WITHIN SELECTED HEALTH AND SOCIAL SERVICE OCCUPATIONS
MARCH 31, 1989



occupations which had a substantial 78 percent part-time personnel.

Table 3 examines the distribution of part-time personnel in selected occupations across large urban, small urban, and rural areas. The table indicates that the percentage of part-time dental hygienists was consistently high across large urban (47%), small urban (53%), and rural areas (53%). Pharmacists also showed a fairly consistent ratio of part-time to full-time personnel across urban and rural areas.

For other occupations, however, there appears to be regional differences in the distribution of part-time personnel; a relatively higher percentage of part-time personnel in rural areas compared to urban areas is the general pattern observed in Table 3. For occupational therapists, the percentage of part-time was 38 percent higher in rural areas than in large urban areas. For registered nursing assistants, there was 17 percent more part-time personnel in rural areas than in large urban centres. This pattern was observed again for registered nurses and physical therapists.

5.4 Permanent Personnel per 10,000 Population

Table 4 provides a summary of the number of permanent personnel per 10,000 Alberta population for 1988 and 1989. The personnel per population ratio in the table is calculated by dividing the total number of permanent personnel within each occupational group by the estimated Alberta population for that year and then multiplying by 10,000. This calculation allows for an examination of the growth of personnel in occupational groups while controlling for the growth of the general population. It should be recognized, however, that Table 4 does not take into consideration changes in the demand for health and social service personnel from year to year. Note, for example, that the table does not take into account yearly changes in the population age structure. It is for this reason that increases or decreases in the number of personnel per population unit should not be taken to indicate "shortages" or "surpluses" of personnel from year to year. Table 4 can best be viewed as a purely descriptive device for informed discussion.

Table 4 reveals that from 1988 to 1989 the total number of health and social service personnel increased from 319.6 to 331.2 per 10,000 population. This represents a small increase of 11.6 health and social service personnel per 10,000 for 1989. The largest increase in personnel occurred for registered nurses who showed an increase of 3.0 personnel per 10,000 population. Other notable increases occurred for diagnostic/therapeutic personnel (+1.8), non-RN nursing personnel (+1.5), social work/service personnel (+1.6) and child day care personnel (+1.5).

5.5 Permanent Personnel per 1,000 Population by Large Urban, Small Urban, and Rural Areas

Table 5 provides a summary of the number of personnel per 1,000 population for 1989 by large urban, small urban, and rural areas. Again, it is important to recognize that the table alone does not provide sufficient information from which to infer regional disparities or surpluses. The table does not take into account variation in demand or supply requirements for personnel between large urban, small urban, and rural areas. The three demographic areas may differ in their demand for health and social service personnel due to a variety of regional differences, such as differences in the age distribution and the local area health delivery system. It should also be recognized that the table looks at full-time and part-time personnel combined; the primary interest is on the presence of personnel across areas, not on the number of hours (i.e., full-time or part-time) worked across areas. This means that man-hours worked across urban and rural areas is not controlled in Table 5.

With these limitations in mind, several observations can be made from Table 5. The highest number of total health and social service personnel per 1,000 population was found in small urban areas, where the personnel-to-population ratio was 44.0 per 1,000. The large urban centres had a relatively smaller ratio of 33.5 per 1,000 and the rural areas had the smallest ratio, 27.9 per 1,000 population. Interestingly, the difference in the distribution of health and social service personnel was greater between large and small urban centres than between large urban and rural areas. Further analysis reveals the same general pattern when part-time personnel are converted to full-time equivalent positions.[1]

As expected, the largest proportion of personnel to population was seen for registered nurses and this occurred across all areas; registered nurses had the greatest number of personnel to population in large urban centres (8.0/1,000 pop), in small urban centres (9.5/1,000 pop), and in rural areas (5.1/1,000 pop). A similar pattern was observed for non-RN nursing personnel. The substantial number of rehabilitation personnel in small urban centres was attributable to the location of one large rehabilitation institution in a small urban centre.

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[1] Part-time personnel can be converted to full-time equivalent positions by the following formula: part-time personnel/2 + part-time vacancies/2 + full-time personnel + full-time vacancies. Using this full-time equivalent formula, the following distribution was observed: large urban, 30.1 FTE per 1,000 population; small urban, 39.8 FTE per 1,000 population; and rural, 22.9 FTE per 1,000 population.

TABLE 3. PERCENT PART-TIME PERSONNEL FOR SELECTED OCCUPATIONS IN LARGE URBAN, SMALL URBAN, AND RURAL AREAS* MARCH 31, 1989

OCCUPATION	LARGE URBAN	SMALL URBAN	RURAL AREAS
	% PART-TIME	% PART-TIME	% PART-TIME
Dental Hygienists	47.1	52.7	53.3
Combined Lab/X-Ray Tech.	26.9	57.1	52.6
Radiographic (X-Ray) Tech.	34.7	25.7	49.6
Registered Nurses	39.3	41.4	50.3
Registered Nursing Assistants	41.0	40.3	57.7
Occupational Therapists	26.7	44.9	65.0
Physical Therapists	35.7	32.7	49.1
Speech Therapists	25.5	43.4	28.1
Pharmacists	32.4	31.3	34.2
Psychologists	34.4	19.8	25.7
ALL OCCUPATIONS	30.0	30.0	43.1

* Large urban, small urban, and rural areas have been defined in terms of the following population figures:
Large urban--population > 70,000 (includes Edmonton(CMA) and Calgary(CMA)),
Small urban--10,000 < population < 70,000,
Rural Areas--population < 10,000.

TABLE 4. NUMBER OF PERMANENT PERSONNEL BY OCCUPATION, 1989
AND NUMBER OF PERMANENT PERSONNEL BY OCCUPATION
PER 10,000 POPULATION, 1988 AND 1989

OCCUPATIONAL GROUP	1989 PERSONNEL	PERSONNEL TO POP'89*	PERSONNEL TO POP'88**	PERSONNEL TO POP CHANGE***
AMBULANCE PERSONNEL (Paid and Volunteer)	2,161	8.92	8.52	0.40
CHILD/YOUTH CARE PERSONNEL	1,825	7.53	7.21	0.32
CHILD DAY CARE PERSONNEL	6,221	25.67	24.18	1.48
CORRECTIONAL PERSONNEL	1,844	7.61	7.36	0.25
DENTAL PERSONNEL	3,648	15.05	14.92	0.13
DIETARY PERSONNEL	4,158	17.16	17.77	-0.62
EYE CARE PERSONNEL	1,059	4.37	4.21	0.16
HEALTH RECORDS PERSONNEL	837	3.45	3.43	0.03
HOME CARE PERSONNEL	1,719	7.09	7.31	-0.21
DIAGNOSTIC/THERAPEUTIC PERSONNEL	5,634	23.25	21.47	1.78
REGISTERED NURSE PERSONNEL	17,810	73.49	70.51	2.97
OTHER NURSING PERSONNEL (NON-RN)	10,234	42.23	40.69	1.54
OCCUPATIONAL HEALTH PERSONNEL	58	0.24	0.85	-0.61
PHARMACEUTICAL PERSONNEL	2,694	11.12	10.69	0.42
PSYCHOLOGICAL PERSONNEL	1,528	6.30	5.76	0.54
PUBLIC HEALTH PERSONNEL	241	0.99	0.82	0.17
REHABILITATION PERSONNEL	6,404	26.42	25.99	0.43
SOCIAL WORK/SERVICE PERSONNEL	3,504	14.46	12.85	1.61
PROGRAM ADMIN/CLERICAL SUPPORT	8,433	34.80	33.66	1.13
OTHER HEALTH CARE/SERVICE PERSONNEL	243	1.00	1.39	-0.39
TOTAL	80,255	331.15	319.60	11.55

* Personnel to population = (1989 total permanent full-time and part-time personnel/1989 Alberta Alberta population) x 10,000.
Alberta population, April 1, 1989, = 2,423,500. (Source: "Alberta Population Growth, First Quarter, 1989, Alberta Bureau of Statistics, June, 1989.)

** Personnel to population = (1988 total permanent full-time and part-time personnel/1988 Alberta Alberta population) x 10,000.
Alberta population, April 1, 1988, = 2,388,300. (Source: "Alberta Population Growth, First Quarter, 1989, Alberta Bureau of Statistics, June, 1989.)

*** Personnel population change= (1989 personnel to population ratio) - (1988 personnel to population ratio).

TABLE 5. NUMBER OF PERMANENT PERSONNEL IN OCCUPATIONAL GROUPS PER 1,000 POPULATION IN LARGE URBAN, SMALL URBAN, AND RURAL AREAS MARCH 31, 1989

OCCUPATIONAL GROUP	PERSONNEL PER 1,000 POPULATION*		
	LARGE URBAN	SMALL URBAN	RURAL AREAS
AMBULANCE PERSONNEL (Paid and Volunteer)	0.37	1.13	1.97
CHILD/YOUTH CARE PERSONNEL	0.82	1.09	0.46
CHILD DAY CARE PERSONNEL	3.14	2.23	1.39
CORRECTIONAL PERSONNEL	0.72	0.93	0.79
DENTAL PERSONNEL	1.77	1.74	0.82
DIETARY PERSONNEL	1.60	2.01	1.85
EYE CARE PERSONNEL	0.51	0.63	0.19
HEALTH RECORDS PERSONNEL	0.31	0.42	0.40
HOME CARE PERSONNEL	0.46	0.88	1.20
DIAGNOSTIC/THERAPEUTIC PERSONNEL	2.88	2.46	1.01
REGISTERED NURSE PERSONNEL	7.96	9.49	5.09
OTHER NURSING PERSONNEL (NON-RN)	3.70	5.10	5.03
OCCUPATIONAL HEALTH PERSONNEL	0.04	0.00	0.00
PHARMACEUTICAL PERSONNEL	1.18	1.38	0.84
PSYCHOLOGICAL PERSONNEL	0.76	0.62	0.34
PUBLIC HEALTH PERSONNEL	0.05	0.09	0.22
REHABILITATION PERSONNEL	2.30	7.10	1.71
SOCIAL WORK/SERVICE PERSONNEL	1.43	1.87	1.31
PROGRAM ADMIN/CLERICAL SUPPORT	3.36	4.77	3.23
OTHER HEALTH CARE/SERVICE PERSONNEL	0.13	0.02	0.06
TOTAL	33.48	43.97	27.90

* Personnel per 1,000 population = (total permanent full-time + part-time/area population) x 1,000. Total permanent personnel is aggregated on the basis of three population area sizes: large urban-- population > 70,000 (includes Edmonton (CMA) and Calgary (CMA)); small urban-- 10,000 < population < 70,000; and rural-- population < 10,000. Large urban, small urban, and rural population figures are based on an estimated June 1, 1989 total Alberta population of 2,429,500 (Source: Alberta Bureau of Statistics, 1989).

6. Vacancy Rates

All vacancy rates are calculated using full-time equivalent positions (FTEs). Within the vacancy rate formula, all part-time positions are converted to 'equivalent' full-time positions.[1] A conversion factor of two part-time to one full-time equivalent position was used to convert part-time positions to full-time equivalent positions in 1989. Prior to 1989, a conversion factor of 2.38 for registered nurses and a factor of 3 for all other occupations had been used to convert part-time positions to full-time equivalent positions.[2] It is important to recognize that all full-time equivalent positions calculated for 1988 and 1989 will not be comparable because of the change in the part-time conversion factor between these years.[3] Vacancy rates for 1988 and 1989, however, can be compared because a change in the size of the part-time conversion factor has a negligible effect on calculated vacancy rates.[4]

6.1 Vacancy Rates by Occupational Category

Table 6 provides a summary of vacancy rates for 1989 and vacancy rate changes from 1988 to 1989 for each occupational group surveyed. A more detailed account of the vacancy rate for each occupation in 1989 is given in Appendix 2. It should be noted that all employers surveyed reported the number of vacant positions for March 31,1989, with the exception of one large hospital (+300 beds), which reported the number of vacant positions for November 30,1989.

Table 6 indicates that there were 3,839 vacant full-time equivalent positions reported in 1989. The total vacancy rate for all health and social service occupations rose from 3.2 in 1988 to 5.4 in 1989. This represents a vacancy rate increase of 2.2 percent.

The vacancy rate reported for **registered nurses** in 1989 was 8.2 percent. Registered nurses, being the largest occupational group surveyed had, as expected, the highest number, 1,265, of vacant full-time equivalent positions. Registered nurses also experienced one of the largest increases, 4.2 percent, in vacancy rates from 1988 to 1989. The most pronounced vacancy rate increase among registered nurses was seen for maternal/child care specialties where the vacancy rate increased from 2.1 percent in 1988 to 10.2 percent in 1989. An increase of approximately 6 percent in vacancy rates from 1988 to 1989 was observed among nurses working in intensive care, recovery room, medical/surgical, pediatrics, long-term care, and general duty. These particular nursing specialties also had the highest vacancy rates among registered nurses in 1989. One notable decline in vacancy rates occurred for nurses employed in offices and clinics; in this setting, the vacancy rate declined from 8.1 percent in 1988 to 1.7 percent in 1989. It should also be noted, however, that a total of five medical clinics failed to respond to the survey and this resulted in an estimated 168 unreported personnel for medical clinics (See Appendix 1). This lower response rate for medical clinics may explain part of the decline in reported vacancy rates for the nurses employed in this setting.

Among **non-RN nursing occupations**, the vacancy rate rose from 1.6 percent in 1988 to 3.5 percent in 1989. A total of 293 vacant full-time equivalent positions were reported for non-RN nursing personnel in 1989. Over one-half of these vacant full-time equivalent positions were for registered nursing assistants; 181 vacant full-time equivalent positions along with a vacancy rate of 5.4 percent was observed for registered nursing assistants.

As a group, the **rehabilitation occupations** had the highest vacancy rate, 9.4 percent, in 1989. In addition, rehabilitation occupations experienced the largest vacancy rate increase of any occupational group surveyed; the total vacancy rate for rehabilitation personnel rose from 4.6 percent in 1988 to 9.4 percent in 1989. One of the largest vacancy rate increases among rehabilitation personnel occurred for physical therapists, whose vacancy rate increased from 8.5 percent in 1988 to 17.6 percent in 1989. Relatively high vacancy rates in 1989 were also seen among prosthetists/orthotists (14.9%), occupational therapists (13.8%), rehabilitation practitioners (10.1%), and speech therapists (9.7%).

Table 6 indicates that there were 244 vacant full-time equivalent positions among **diagnostic and therapeutic occupations** in 1989. The vacancy rate for this group increased from 1.8 percent in 1988 to 4.8 percent in 1989. The most dramatic vacancy rate increases among diagnostic/therapeutic occupations occurred for

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[1]The formula definitions for full-time equivalent positions and for vacancy rates are given in Appendix 2.

[2]The reduction of the part-time conversion factor to 2 in 1989 was based on the findings of the study "Part-time and Casual Employment in Selected Health and Social Service Groups in Alberta." The study found that part-time personnel were, on average, working close to one-half the hours of full-time personnel.

[3]Given the same number of vacant part-time positions, more vacant full-time equivalent positions will be calculated with a part-time conversion factor of 2 than with a part-time conversion factor of 3. Due to the lower conversion factor employed in 1989, the number of full-time equivalent positions calculated for 1989 will be inflated compared to the full-time equivalent positions calculated in 1988.

[4]The part-time conversion factor does have a small effect on the calculated vacancy rates. The effect, however, is quite minimal; the difference in the vacancy rates calculated for 1989 using a conversion factor of 2 compared to a factor of 3 does not exceed 1 percent for all but two occupations. For electroencephalographic technologists, a change in the conversion factor from 3 to 2 results in a -1.5 percent difference in calculated vacancy rates for 1989. For orthoptists, the change in the conversion factor translates to a 1.1 percent difference in calculated vacancy rates for 1989.

TABLE 6. VACANCY RATES AND VACANCY RATE CHANGE
BY OCCUPATIONAL GROUP
MARCH 31, 1988 AND 1989

OCCUPATIONAL GROUPS	1989 FTE POSITIONS	1989 VACANT FTE POSITIONS	1989 VACANCY RATE(%)	1988 VACANCY RATE(%)	1988-1989 VACANCY RATE CHANGE*
AMBULANCE PERSONNEL (PAID AND VOLUNTEER)	1,630	76	4.6	4.9	-0.2
CHILD/YOUTH CARE PERSONNEL	1,674	74	4.4	3.9	0.5
CHILD DAY CARE PERSONNEL	5,918	198	3.3	3.1	0.3
CORRECTIONAL PERSONNEL	1,856	38	2.0	3.8	-1.8
DENTAL PERSONNEL	3,434	209	6.1	4.8	1.3
DIETARY PERSONNEL	3,320	184	5.5	1.6	3.9
EYE CARE PERSONNEL	995	30	3.0	1.8	1.2
HEALTH RECORDS PERSONNEL	733	23	3.1	1.6	1.5
HOME CARE PERSONNEL	1,095	46	4.2	1.6	2.6
DIAGNOSTIC/THERAPEUTIC PERSONNEL	5,068	244	4.8	1.8	3.0
REGISTERED NURSE PERSONNEL	15,364	1,265	8.2	4.0	4.2
NURSING PERSONNEL (NON-RN)	8,245	293	3.5	1.6	1.9
OCCUPATIONAL HEALTH PERSONNEL	60	2	3.4	0.0	3.4
PHARMACEUTICAL PERSONNEL	2,377	138	5.8	5.8	-0.0
PSYCHOLOGICAL PERSONNEL	1,328	57	4.3	3.3	1.0
PUBLIC HEALTH PERSONNEL	243	8	3.3	6.7	-3.5
REHABILITATION PERSONNEL	6,102	573	9.4	4.6	4.8
SOCIAL WORK/SERVICE PERSONNEL	3,497	165	4.7	2.8	1.9
PROGRAM ADMIN/CLERICAL SUPPORT	7,682	214	2.8	2.3	0.5
OTHER HEALTH CARE/SERVICE PERSONNEL	220	5	2.0	1.7	0.4
TOTALS	70,837	3,839	5.4	3.2	2.2

* VACANCY RATE CHANGE = 1989 vacancy rate - 1988 vacancy rate. The vacancy rate change calculated may not correspond exactly to the difference between the 1988 and 1989 vacancy rates presented in the table, due to the rounding of all figures.

electroencephalographic technologists,[1] whose vacancy rate rose from 1.1 percent to 35.6 percent in 1989 and for respiratory therapists whose vacancy rate increased from 2.4 percent in 1988 to 16.8 percent in 1989. A comparably high vacancy rate of 10.0 percent in 1989 was also seen for diagnostic medical sonographers.

The vacancy rate for **dental personnel** increased from 4.8 percent in 1988 to 6.1 percent in 1989. A total of 209 vacant full-time equivalent positions were reported for dental occupations in 1989. Dental hygienists, with 108 vacant full-time equivalent positions, accounted for over one-half of the vacant positions among dental occupations in 1989. The vacancy rate for dental hygienists was also relatively high at 16.2 percent.

Table 6 reports a 3.3 percent vacancy rate for **child day care occupations** in 1989. No substantial change occurred in the vacancy rate for child care personnel between 1988 and 1989.

Social work and social service occupations also experienced only minor changes in vacancy rates; within the social work and social service occupational category, the vacancy rate increased from 2.8 percent in 1988 to 4.7 percent in 1989. Well over one-half of the reported vacant full-time equivalent positions for social work/social service personnel were for social workers with a Bachelor's degree in social work (54 vacant FTEs) and for social workers with a Master's degree in social work (50 vacant FTEs).

Table 6 indicates no change from 1988 to 1989 in the 5.8 percent vacancy rate reported for **pharmaceutical personnel**. Finally, it should be noted that for **dietary personnel**, the vacancy rate increased moderately from 1.6 percent in 1988 to 5.5 percent in 1989.

Figure 3 provides a summary of some selected health and social service occupations which had high vacancy rates in 1989.

6.2 Vacancy Rates by Large Urban, Small Urban, and Rural Areas for Selected Occupations

The graph in Figure 4, presents the distribution of vacancy rates across large urban, small urban, and rural areas for selected occupations. A more detailed account of the demographic distribution of vacancy rates is provided in Table 7. This table reveals that for all health and social service occupations combined, the vacancy rate was proportioned fairly evenly across large urban (5.6%), small urban (6.0%), and rural areas (4.6%). For dental hygienists, the vacancy rate was consistently high across all areas; 15.3 percent in large urban, 17.0 percent in small urban, and 19.9 percent in rural areas. The same consistent distribution, although with a lower vacancy rate, was observed for registered nurses.

There were, however, some comparatively large demographic disparities in vacancy rates seen for some occupations. Speech therapists, for example, who had an average Alberta vacancy rate of 9.7 percent, showed substantial regional differences in vacancy rates; the vacancy rate for speech therapists in large urban centres was 4.0 percent while the vacancy rate in rural areas was 24.7 percent. A pattern of relatively low large urban vacancy rates compared to higher small urban and rural vacancy rates was also seen for occupational therapists and physical therapists.

7. Turnover Rates

Like vacancy rate calculations, all turnover rates are based on full-time equivalent positions (FTEs). As was explained for vacancy rates, a conversion factor of two part-time positions to one full-time equivalent position was used to convert part-time positions to full-time equivalent positions in 1989.[2] The part-time conversion factor used in 1989 was reduced from the conversion factor used in all prior years; in previous years, a conversion factor of 2.38 for registered nurses and a factor of 3 for all other occupations was used to convert part-time to full-time equivalent positions. It needs to be emphasized that the change in the conversion factor in 1989 undermines the validity of any comparisons of full-time equivalent resignations between 1988 and 1989.[3] Turnover rates, however, can be compared between 1988 and 1989 because the effect of the conversion factor on these rates is generally quite small.[4]

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[1] Approximately -1.5 percent of the change in vacancy rates for electroencephalographic technologists in 1989 is attributable to the change in the conversion factor from 3 in 1988 to 2 in 1989.

[2] The specific formula for the calculation of turnover rates is given in Appendix 2.

[3] More full-time equivalent resignations will be calculated with a part-time conversion factor of 2 than with a part-time conversion factor of 3. Hence, due to the lower part-time conversion factor employed in 1989, the number of full-time equivalent resignations calculated in 1989 will be inflated compared to the number calculated in 1988.

[4] The effect of the different 1988 and 1989 part-time conversion factors on turnovers rates was small. For almost all occupations, the effect of a conversion factor of 3 compared to 2 on 1989 turnover rates did not exceed 1 percent. The occupations where the change in the conversion factor resulted in a change in the calculated 1989 turnover rates of slightly more than 1 percent included dietary aides/service workers, dialysis technicians, radiation oncology technologists, 'other' nursing staff, houseparents, and homemakers. The change in the conversion factor on the calculated 1989 turnover rates was approximately 2 percent for personal care attendants and -2 percent for 'other' ambulance personnel. For child care workers with an unrelated degree, the change in the conversion factor had an effect on the turnover rate calculated in 1989 of approximately 3 percent.

Figure 3.
VACANCY RATES FOR SELECTED HEALTH AND SOCIAL SERVICE OCCUPATIONS
MARCH 31, 1989

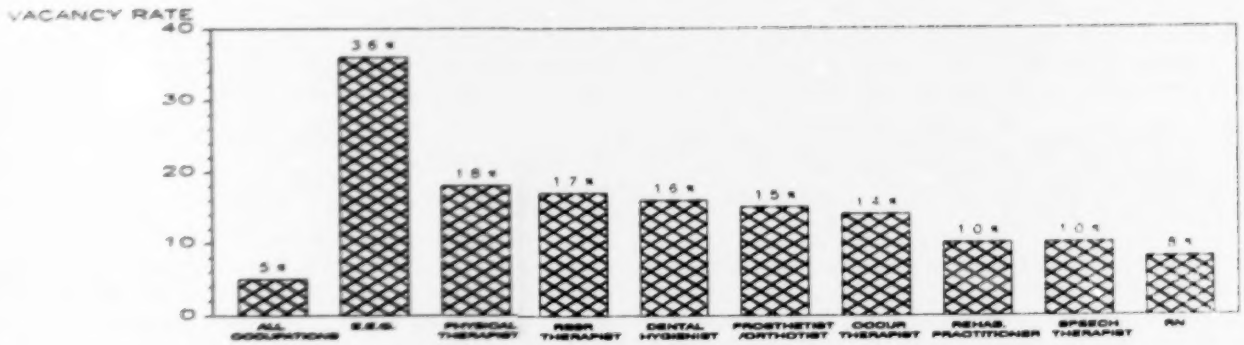

Figure 4.
VACANCY RATES IN LARGE URBAN, SMALL URBAN, AND RURAL AREAS FOR SELECTED HEALTH AND SOCIAL SERVICE OCCUPATIONS
MARCH 31, 1989

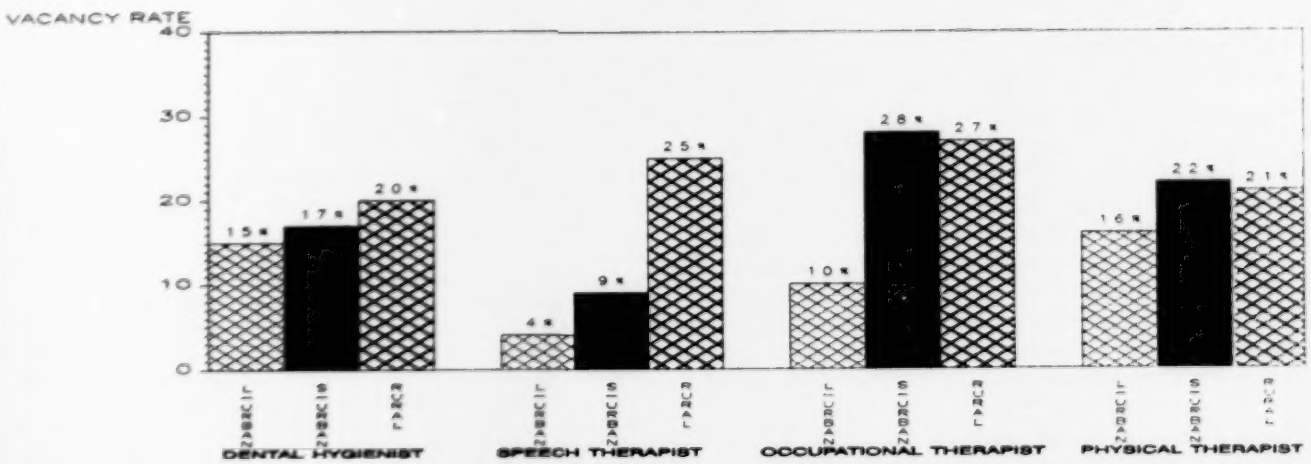

TABLE 7. VACANCY RATES FOR SELECTED HEALTH AND SOCIAL SERVICE OCCUPATIONS IN LARGE URBAN, SMALL URBAN, AND RURAL AREAS
MARCH 31, 1989

OCCUPATION	VACANCY RATE		
	LARGE URBAN	SMALL URBAN	RURAL AREAS
ALL OCCUPATIONS	5.6	6.0	4.6
ELECTROENCEPHALOGRAPHIC TECHNOLOGISTS (E.E.G.)	34.9	0.0	*100.0
PHYSICAL THERAPISTS	16.1	22.0	21.1
RESPIRATORY THERAPISTS	17.7	7.3	18.2
DENTAL HYGIENISTS	15.3	17.0	19.9
PROSTHETISTS/ORTHOTISTS	16.1	0.0	0.0
OCCUPATIONAL THERAPISTS	10.0	27.6	27.0
REHABILITATION PRACTITIONERS	8.6	12.6	8.8
SPEECH THERAPISTS	4.0	8.8	24.7
REGISTERED NURSES	8.7	8.3	6.3

* The rural vacancy rate was based on a very small number of positions; there was only one full-time equivalent electroencephalographic technologist position in rural areas.

7.1 Turnover Rates by Occupational Category

Table 8 examines turnover rates and turnover rate changes between 1988 and 1989 for the occupational groups surveyed. A detailed account of the 1989 turnover rate for each occupation is provided in Appendix 2. It should be noted that the number of resignations during the period between April 1, 1988 and March 31, 1989 was not reported by one large hospital (+300 beds). The full-time equivalent positions reported by this hospital (total FTEs = 2,182) have been excluded from all turnover rate calculations.

Table 8 indicates that there was a total of 9,578 full-time equivalent resignations reported in 1989. The total turnover rate for all health and social service occupations did not change substantially between 1988 (13.2%) and 1989 (14.0%).

Table 8 reveals that **registered nurses**, who had the largest number of permanent personnel compared to all occupations surveyed, also had the largest number of full-time equivalent resignations; a total of 1,749 full-time equivalent resignations was reported for registered nurses in 1989. The turnover rate for registered nurses, however, declined slightly from 13.0 percent in 1988 to 12.4 percent in 1989. Note, as well, that the 1989 turnover rate for nurses of 12.4 percent was below the average turnover rate of 14.0 percent for all health and social service occupations combined. Most of the nursing specialties reflected a turnover rate decline from 1988 to 1989. The largest turnover rate declines were seen for nurses in short stay units (-5.6%), community/public health (-5.5%), maternal/child care (-4.6%) and intensive care (-4.5%). Nurses in intravenous therapy experienced a sharp decline of 24.5 percent in turnover rates, but it should be noted that the turnover rate for this nursing specialty was based on a relatively small number of total full-time equivalent positions (24 FTEs). The only nursing area to report a substantial increase in turnover rates was general duty nursing where the turnover rate increased from 13.5 percent in 1988 to 19.2 percent in 1989.

Next to registered nurses, **non-RN nursing occupations** had one of the greatest numbers, 1,026, of full-time equivalent resignations. Among non-RN occupations, the greatest number of full-time equivalent resignations was seen for registered nursing assistants (330 FTE resignations) and for nursing occupations requiring no formal or accredited training (569 FTE resignations). With respect to turnover rates, non-RN occupations experienced a small turnover rate increase between 1988 (11.9%) and 1989 (12.7%).

Child day care personnel employed in day care centres had the highest turnover rate among all the occupational groups presented in Table 8. The turnover rate of 28.5 percent for child day care occupations was more than double the turnover rate for all health and social service occupations combined. Moreover, the 1989 turnover rate for this occupational group increased substantially over the 23.6 percent turnover rate reported in 1988. This high turnover rate among child day care workers was largely due to the resignations of workers with no educational credentials (related or unrelated); 1,242 full-time equivalent resignations occurred among workers lacking related or unrelated educational credentials.

Table 8 indicates that **child/youth care occupations** (employed outside day care centres) also had one of the highest turnover rates (27.2%) of all health and social service occupations. In addition, child/youth care occupations experienced the largest turnover rate increase (+6.8%) in 1989. Within this occupational category, the highest turnover rates were seen for child/youth care workers with a related Baccalaureate or Master's degree (35.1%), for workers with no related or unrelated degree or diploma (31.0%), and for workers with a child/youth care diploma (27.2%). The greatest turnover rate increases between 1988 and 1989 occurred for child/youth care workers with no related or unrelated degree or diploma (+14.4%) and for workers with a related Baccalaureate or Master's degree (+13.9%).

There were 935 full-time equivalent resignations reported for **rehabilitation occupations** in 1989. The turnover rate of 15.6 percent reported for rehabilitation personnel in 1988 did not change in 1989. Among rehabilitation personnel, the largest numbers of full-time equivalent resignations were seen for rehabilitation practitioners (272), rehabilitation aides (195), and physical therapists (178). High turnover rates were observed for recreational therapists (20.8%), rehabilitation practitioners (19.0%), physical therapists (19.4%), and occupational therapists (18.3%).

There were 563 full-time equivalent resignations reported for **diagnostic and therapeutic occupations** in 1989. The turnover rate for these occupations changed slightly from 1988 (10.5%) to 1989 (11.9%). Within the diagnostic and therapeutic occupational category, the highest turnover rates were seen for radiation oncology technologists (20.8%), nuclear medicine technologists (19.0%), and diagnostic medical sonographers (18.1%). Of these, the largest increases in turnover rates from 1988 to 1989 occurred for radiation oncology technologists (+12.7%) and nuclear medicine technologists (+7.9%).

Finally, an examination of turnover rates for **dental occupations** in Table 8 reveals no significant change for this occupational group from 1988 (14.3%) to 1989 (14.6%). Within the dental occupational category, the highest turnover rates were observed for dental hygienists (16.1%) and dental assistants (15.9%).

TABLE 8. TURNOVER RATES AND TURNOVER RATE CHANGE
BY OCCUPATIONAL GROUP
MARCH 31, 1988 AND 1989

OCCUPATIONAL GROUPS	1989 FTE POSITIONS	1989 FTE RESIGNATIONS*	1989 TURNOVER RATE (%)	1988 TURNOVER RATE (%)	1988-1989 TURNOVER RATE CHANGE**
AMBULANCE PERSONNEL (PAID AND VOLUNTEER)	1,630	159	9.8	10.8	-1.0
CHILD/YOUTH CARE PERSONNEL	1,674	456	27.2	20.4	6.8
CHILD DAY CARE PERSONNEL	5,918	1,689	28.5	23.6	4.9
CORRECTIONAL PERSONNEL	1,856	87	4.7	8.1	-3.5
DENTAL PERSONNEL	3,434	502	14.6	14.3	0.3
DIETARY PERSONNEL	3,320	447	14.3	13.4	0.8
EYE CARE PERSONNEL	995	141	14.2	9.1	5.0
HEALTH RECORDS PERSONNEL	733	68	10.1	8.5	1.6
HOME CARE PERSONNEL	1,095	176	16.1	16.5	-0.4
DIAGNOSTIC/THERAPEUTIC PERSONNEL	5,068	563	11.9	10.5	1.4
REGISTERED NURSE PERSONNEL	15,364	1,749	12.4	13.0	-0.6
NURSING PERSONNEL (NON-RN)	8,245	1,026	12.7	11.9	0.7
OCCUPATIONAL HEALTH PERSONNEL	60	5	8.4	8.0	0.5
PHARMACEUTICAL PERSONNEL	2,377	313	13.5	11.8	1.7
PSYCHOLOGICAL PERSONNEL	1,328	67	5.1	6.9	-1.8
PUBLIC HEALTH PERSONNEL	243	14	5.6	6.6	-1.0
REHABILITATION PERSONNEL	6,102	935	15.6	15.6	-0.0
SOCIAL WORK/SERVICE PERSONNEL	3,497	353	10.2	10.9	-0.7
PROGRAM ADMIN/CLERICAL SUPPORT	7,682	806	10.5	9.4	1.0
OTHER HEALTH CARE/SERVICE PERSONNEL	220	26	11.8	11.1	0.7
TOTALS	70,837	9,578	14.0	13.2	0.8

* One large hospital (+300 beds) did not report the number of resignations occurring between April 1, 1988 and March 31, 1989. The full-time equivalent positions reported by this hospital were excluded from all 1989 turnover rate calculations.

** TURNOVER RATE CHANGE= 1989 turnover rate - 1988 turnover rate. The turnover rate change may not correspond exactly to the difference between the 1988 and 1989 turnover rates presented in the table, due to the rounding of all figures.

Some health and social service occupations which have higher turnover rates are presented graphically in Figure 5.

7.2 Turnover Rates by Large Urban, Small Urban, and Rural Areas for Selected Occupations

Figure 6 provides an illustration of the distribution of turnover rates across large urban, small urban, and rural areas for selected health and social service occupations. A more detailed account of turnover rates across demographic areas for selected health and social service occupations is given in Table 9.

The table reveals that for all health and social service occupations combined, the regional differences in turnover rates between large urban areas (15.0%), small urban areas (11.9%) and rural areas (12.4%) were small. Consistently high turnover rates were seen for day care occupations in large urban areas (29.4%), small urban areas (26.0%), and rural areas (25.6%). For child/youth care occupations, higher turnover rates were seen in large urban centres (31.0%) than in rural areas (16.7%). This pattern of higher turnover rates in large urban compared to rural areas was repeated again for physical therapists and recreational therapists. Occupations that tend to be concentrated in large hospitals had, as expected, higher large urban vacancies; included in these urban-based occupations are radiation oncology technologists, nuclear medicine technologists, and diagnostic medical sonographers.[1]

8. Contract/Casual/Temporary/Relief Personnel

Employers were asked to report the number of contract, casual, temporary, and relief personnel employed between April 1, 1988 and March 31, 1989. This question was not included in the survey forms mailed to day care centres, ambulance operators, and post-secondary institutions. Of the 4,503 employers who were asked this question, 1,448 (32.2%) reported that they did employ contract/casual personnel while 1,901 (42.2%) indicated that they did not employ any personnel under this employment status. The remaining 1,154 (25.6%) of employers did not respond to the question.

The 1,448 employers who reported that they did employ contract/casual personnel were asked to indicate the occupations for which contract/casual personnel were employed, the total number of personnel employed within each occupation, and the total number of hours worked within each occupation. To encourage employer response, a number of occupational categories were listed on the survey form. The occupations listed included registered nurses, registered nursing assistants, physical therapists, occupational therapists, psychologists, social workers, dietitians/nutritionists, pharmacists, audiologists/speech pathologists, and dental hygienists. A category for 'other' occupations was also provided on the form, but it should be recognized that the structure of the question biased responses towards the occupations explicitly listed.

Appendix 3 summarizes the data provided by employers on contract/casual personnel for each occupation. Before reviewing the data, however, a few comments need to be made regarding data limitations. Since 25.6 percent of employers failed to respond to the survey section on contract/casual personnel, the table in Appendix 3 underestimates both the total number of casual/contract personnel and the total number of hours worked by these personnel. A second difficulty relates to the fact that not all employers were able to give complete information on the number of hours worked by contract/casual personnel; the total hours worked was reported for only 73.9 percent of contract/casual personnel. This results in a further underestimation of the total number of hours worked by contract/casual personnel in Appendix 3.

Another potential weakness in the data is due to the problem of double counting the same contract/casual worker by different employers. This problem is exacerbated by the measurement time frame, which was one year, from April 1, 1988 to March 31, 1989. It is, for example, quite conceivable that the same contract/casual personnel may have worked for different employers over the space of one year. This type of duplicate reporting may lead to an overestimation of the number of contract/casual personnel employed. In summary, there appears to be two opposing biases operating on the data presented in Appendix 3; employer non-response leads to an underestimation of contract/casual personnel and the total hours worked, while the double counting of contract/casual personnel leads to an overestimation of the casual/contract manpower pool.

The total number of hours worked reported in Appendix 3 is not biased by the double counting of casual/contract personnel. That is, the total number of contract/casual hours reported by employers remains the same regardless of the number of personnel who were reported to have worked during that period of time. In order to obtain a quantified picture of the number of personnel required for the total number of casual hours reported, Appendix 3 converts the total number of contract/casual hours reported to full-time worker equivalents. This conversion

[1]The 16.7 percent rural turnover rate shown for medical sonographers was based on only 6 full-time equivalent positions. By comparison the turnover rate of 20.7 percent given for large urban areas was based on 94 full-time equivalent positions.

Figure 5.
TURNOVER RATES FOR SELECTED HEALTH AND SOCIAL SERVICE OCCUPATIONS
MARCH 31, 1989

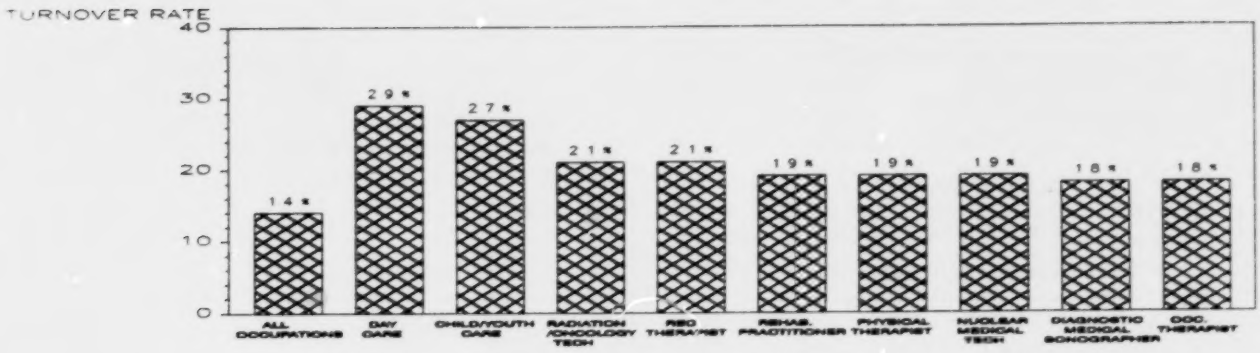

Figure 6.
TURNOVER RATES IN LARGE URBAN, SMALL URBAN, AND RURAL AREAS FOR SELECTED HEALTH AND SOCIAL SERVICE OCCUPATIONS
MARCH 31, 1989

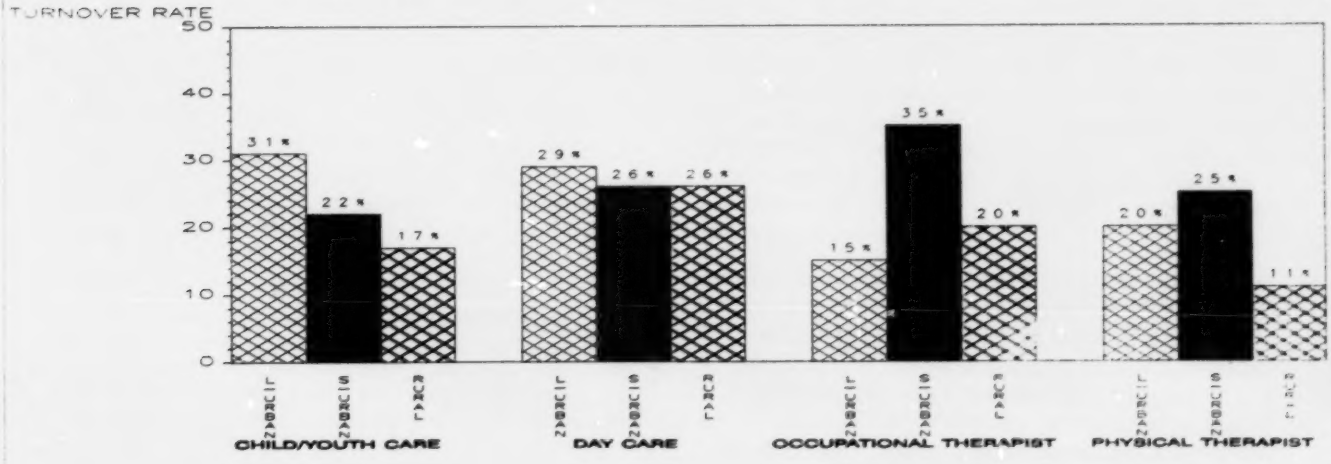

TABLE 9. TURNOVER RATES FOR SELECTED HEALTH AND SOCIAL SERVICE OCCUPATIONS IN LARGE URBAN, SMALL URBAN, AND RURAL AREAS
MARCH 31, 1989

OCCUPATION	TURNOVER RATE(%)		
	LARGE URBAN	SMALL URBAN	RURAL AREAS
ALL OCCUPATIONS	15.0	11.9	12.4
DAY CARE PERSONNEL	29.4	26.0	25.6
CHILD/YOUTH CARE PERSONNEL	31.0	21.9	16.7
RADIATION ONCOLOGY TECHNOLOGISTS	21.7	0.0	0.0
RECREATIONAL THERAPISTS	23.6	16.1	16.1
REHABILITATION PRACTITIONERS	22.7	12.4	22.1
PHYSICAL THERAPISTS	20.3	25.1	11.2
NUCLEAR MEDICINE TECHNOLOGISTS	21.2	7.7	0.0
DIAGNOSTIC MEDICAL SONOGRAPHERS	20.7	8.2	*16.7
OCCUPATIONAL THERAPISTS	15.1	35.2	20.3

* The 16.7 percent turnover rate for medical sonographers was based on only 6 full-time equivalent positions.

equates the total number of contract/casual hours reported to the number of full-time personnel working a 30 hour week who would be needed to work those contract/casual hours.[1] The major advantage to this conversion is that it is not affected by the double counting of the same contract/casual worker by different employers.

The foregoing discussion on data limitations should be kept in mind when interpreting the tables on contract/casual personnel presented in this report. Table 10 summarizes the health and social service occupations which had the highest number of contract/casual personnel. The table indicates that there was a total of 12,697 contract/casual personnel reported working in all health and social service occupations combined. The table shows further that registered nurses had the highest number, 5,311, of contract/casual personnel. The highest annual mean hours worked per contract/casual worker in Table 10 is shown for rehabilitation aides (669.5 hours/worker) and for registered nursing assistants (531.3 hours/worker).

Table 11 converts the total number of contract/casual hours reported to full-time worker equivalents. The table indicates that 2,640 full-time personnel would be required to cover the total 4,118,528 contract/casual hours reported in this survey. Registered nurses in particular, would require a large number of full-time personnel, 848, to work the equivalent number of contract/casual hours reported in the table.

9. Recruitment Difficulties

9.1 Three Month Vacant Positions

A new question, designed to quantify employer recruitment difficulties, was included in the 1989 survey form. This question requested information on the number of positions which had been vacant for three months, from January 1, 1989 to March 31, 1989, while recruitment activities had been in progress. The question was not included in the survey form mailed to day care centres and post-secondary institutions.[2] Of the 936 employers who had reported a vacancy on March 31 (excluding day care centres and post-secondary institutions), 421 (45.0%) reported that one or more vacancies had been vacant for three months or longer.

The 421 employers who reported one or more three month vacancies were asked to specify the occupational category and the full-time or part-time status of the vacant position. Table 12 highlights the occupations for which employers reported relatively large numbers of three month vacancies. To allow for comparisons within the table, all vacancies are expressed in terms of vacant full-time equivalent positions. The table indicates that of the total 3,600 vacant full-time equivalent positions reported for March 31, 1989, 24.1 percent were vacant for three months or longer. Among the occupations presented in the table, dental hygienists experienced the highest percentage of three month vacant positions (74.0%). A comparatively high proportion (60.9%) of three month vacancies was also reported for physical therapists.

Table 13 shows a breakdown of the percentage of three month vacancies across large urban, small urban, and rural areas. Again, to allow for comparisons within the table, full-time and part-time vacancies have been converted to vacant full-time equivalent positions. The table consistently reveals a higher proportion of three month vacancies in rural areas compared to urban centres. For all health and social service occupations surveyed, the percentage of vacancies which were three months or longer was 16.7 percent in large urban centres, 33.4 percent in small urban centres, and 41.8 percent in rural areas. Excluding occupations where percentages were based on less than 4 vacant full-time equivalent positions, Table 13 indicates that occupational therapists had the most dramatic spread in the percentage of three month vacant positions between large urban (15.6%) and rural areas (75.0%).

9.2 Anticipated Recruitment Difficulties

In addition to the question on three month vacancies, employers were asked whether they anticipated difficulties in recruiting health and social service personnel in the next year. Again, this question was not included in the survey forms for day care centres or post-secondary institutions. Among the employers who were asked this question, 1,045 (22.6%) responded that they did anticipate recruitment difficulties over the next year while 2,462 (53.3%) anticipated no recruitment problems. The remaining 1,116 (24.1%) employers did not respond to the question.

Employers expected recruitment difficulties in some occupations more than others. More specifically, 27.7 percent (213) of the employers of pharmacists, 44.3 percent (210) of the employers of dental hygienists, 45.0 percent (158) of the employers of physical therapists, and 26.8 percent (41) of the employers of occupational therapists, anticipated that these occupations would be difficult to recruit in 1990. Employers of registered nurses identified general duty nurses (41.6%)

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[1] A 30 hour work week was selected as the measurement of full-time worker because this definition corresponds to the definition of full-time worker utilized in the survey. However, readers may wish to substitute another figure for weekly full-time hours.

[2] The survey forms mailed to post-secondary institutions included the section on three month vacancies and anticipated recruitment difficulties. A small number of post-secondary institutions responded to this section. These responses, however, were not tabulated and are not available for data analysis.

TABLE 10. OCCUPATIONS WITH THE HIGHEST NUMBER OF CASUAL/CONTRACT/TEMPORARY/RELIEF PERSONNEL MARCH 31, 1989*

OCCUPATIONAL GROUP	# CASUAL WORKERS	# CASUAL WORKERS WITH HOURS REPORTED	TOTAL CASUAL HOURS REPORTED	MEAN HOURS WORKED PER WORKER
ALL OCCUPATIONS COMBINED	12,697	9,379	4,118,528	439.1
REGISTERED NURSES	5,311	3,466	1,323,122	381.7
REGISTERED NURSING ASSISTANTS	1,504	965	512,682	531.3
OTHER NURSING STAFF**	1,041	780	369,963	474.3
REHABILITATION AIDES	638	633	423,762	669.5
PHARMACISTS	439	408	110,396	270.6

* The section on casual/contract/temporary/relief personnel was not included in the survey form given to day care centres, ambulance operators, and post-secondary institutions.

** OTHER NURSING STAFF includes nursing aides, nursing attendants, and any nursing staff who are not registered nurses, graduate nurses, psychiatric nurses, nursing assistants, or unit ward clerks.

TABLE 11. CONVERSION OF CASUAL/CONTRACT/TEMPORARY/RELIEF HOURS TO FULL-TIME WORKER EQUIVALENTS FOR SELECTED OCCUPATIONS MARCH 31, 1989

OCCUPATIONAL GROUP	TOTAL CASUAL HOURS REPORTED	CASUAL HOURS CONVERTED TO F-T WORKER*
ALL OCCUPATIONS COMBINED	4,118,528	2,640.1
REGISTERED NURSES	1,323,122	848.2
REGISTERED NURSING ASSISTANTS	512,682	328.6
OTHER NURSING STAFF**	369,963	237.2
REHABILITATION AIDES	423,762	271.6
PHARMACISTS	110,396	70.8

* The total number of hours worked by casual personnel is divided by the annual hours worked, 1,560 (based on a 30 hour work week), by one full-time worker. This computation equates the total number of casual hours to the number of full-time workers that would be needed to work those casual work hours based on a 30 hour work week.

** OTHER NURSING STAFF includes nursing aides, nursing attendants, and any nursing staff who are not registered nurses, graduate nurses, psychiatric nurses, nursing assistants, or unit ward clerks.

TABLE 12. PERCENTAGE OF VACANT FULL-TIME EQUIVALENT POSITIONS REPORTED VACANT FOR THREE MONTHS OR LONGER FOR SELECTED OCCUPATIONS MARCH 31, 1989

OCCUPATION	THREE MONTH VACANT FTE POSITIONS*	TOTAL VACANT FTE POSITIONS REPORTED**	PERCENT THREE MONTH VACANT FTE POSITIONS***
ALL OCCUPATIONS COMBINED	866	3,600	24.1
REGISTERED NURSES	314	1,265	24.8
PHYSICAL THERAPISTS	104	170	60.9
DENTAL HYGIENISTS	80	108	74.0
PHARMACISTS	59	114	51.3
RESPIRATORY THERAPISTS	24	78	30.8
OCCUPATIONAL THERAPISTS	23	57	39.8
SPEECH THERAPISTS	13	30	42.4

* Employers were asked in Section C of the survey to report the number of positions that had been vacant for three months, from January 1, 1989 to March 31, 1989. This question was not included in the survey form given to day care centres and post-secondary institutions.

** The 239 full-time equivalent vacant positions reported by day care centres and post-secondary institutions were excluded from the total vacant full-time equivalent count because these two employer groups were excluded from the measurement of three month vacant positions.

*** PERCENT THREE MONTH VACANT FTE POSITIONS = (number of full-time equivalent three month vacancies/total number of full-time equivalent vacancies reported) x 100. Percentages shown have been calculated using all significant digits in the full-time equivalent vacancy data rather than on the rounded vacancy figures presented in the table.

TABLE 13. PERCENTAGE OF VACANT FULL-TIME EQUIVALENT POSITIONS REPORTED VACANT THREE MONTHS OR LONGER, BY LARGE URBAN, SMALL URBAN, AND RURAL AREAS FOR SELECTED OCCUPATIONS MARCH 31, 1989*

OCCUPATION	LARGE URBAN	SMALL URBAN	RURAL AREAS
	PERCENT THREE MONTH FTE VACANCIES	PERCENT THREE MONTH FTE VACANCIES	PERCENT THREE MONTH FTE VACANCIES
ALL OCCUPATIONS COMBINED	16.7	33.4	41.8
REGISTERED NURSES	16.8	42.9	49.1
DENTAL HYGIENISTS	69.6	85.7	82.1
PHARMACISTS	32.7	62.8	73.6
PHYSICAL THERAPISTS	48.9	93.9	78.1
RESPIRATORY THERAPISTS	27.0	**100.0	**100.0
OCCUPATIONAL THERAPISTS	15.6	69.0	75.0
SPEECH THERAPISTS	**26.7	**25.0	52.8

* For table clarification, see footnotes provided in Table 12 above.

** These percentages were based on less than 4 vacant three month full-time equivalent positions.

and long-term care nurses (40.6%) in particular, as difficult to recruit.

Employers were asked to state the reason(s) for anticipated recruitment problems. Among all the reasons given for recruitment difficulties, employers most frequently cited a shortage of available personnel as the reason it would be difficult to recruit dental hygienists (68%), physical therapists (63%), registered nurses (50%), respiratory therapists (46%), and pharmacists (41%). A substantial proportion of employers also indicated that "undesirable location" was a recruitment problem for respiratory therapists (23%), registered nurses (23%), and pharmacists (28%).

10. Employer Groups

This report has focused primarily on the occupational characteristics of health and social service personnel. Exclusive attention thus far has not been given to employer groups. Within the survey data set, employer groups can be described in terms of the health and social service personnel they employ. It is anticipated that separate and customized reports describing the personnel employed within the various employer groups will be produced at a later date from the information collected in the 1989 'Survey of Health and Social Service Personnel Working in Alberta'.

Table 14 provides a summary of the number of permanent personnel, the vacancy rates, and the turnover rates for each employer group surveyed. Data from this table indicates that 46.4 percent of health and social service personnel were employed in institutional work settings. Within institutional settings, the highest overall vacancy rate (8.3%) was reported for acute care hospitals and the highest turnover rate (21.0%) occurred in nursing homes. In community work settings, private physiotherapy clinics had the highest vacancy rate (9.1%) while day care centres had the highest turnover rate (28.5%).

11. Further Information

The summary of health and social service personnel provided in this report has served to highlight the types of data analyses that are possible with the information supplied by the employer survey. The data available from the 1989 survey, as well as data from prior survey years, allows for extensive additional analyses tailored to particular occupations or employer groups. As mentioned earlier, it is anticipated that special reports designed for specific employer groups, will be forthcoming from the 1989 survey data.

Individuals or organizations are encouraged to request supplemental information and analyses specific to their needs. It should be noted that the Alberta Health and Social Services Disciplines Committee is able to supply information on aggregate data only; data on individual employers is confidential and may only be released to the reporting employer. For further information, please contact:

Alberta Health and Social Services Disciplines Committee
5th Floor, Kensington Place
10011 – 109 Street
EDMONTON, Alberta
T5J 3S8

Telephone: (403) 427-2655

TABLE 14. NUMBER OF PERMANENT FULL-TIME AND PART-TIME PERSONNEL, VACANCY RATES, AND TURNOVER RATES, BY EMPLOYER GROUP, MARCH 31, 1989

EMPLOYER GROUPS		FULL-TIME PERSONNEL	PART-TIME PERSONNEL	TOTAL PERSONNEL	VACANCY RATE (%)	TURNOVER RATE (%)
INSTITUTIONS	Total	22,867	14,338	37,205	6.8	12.9
	ACUTE CARE HOSPITALS	14,926	9,039	23,965	8.3	12.4
	AUXILLARY HOSPITALS	2,616	2,655	5,271	5.5	11.9
	NURSING HOMES	2,138	2,416	4,554	2.4	21.0
	PSYCHIATRIC HOSPITALS	1,090	146	1,236	4.8	13.5
	CORRECTIONAL INSTITUTIONS	2,097	82	2,179	2.5	5.6
COMMUNITY	Total	30,875	12,175	43,050	4.3	14.8
	DAY CARE CENTRES	5,213	1,000	6,213	3.3	28.5
	GOVERNMENT DEPARTMENTS	4,833	248	5,081	7.6	7.2
	HLTH/SOCIAL SERVICE AGENCIES	3,539	1,636	5,175	4.6	17.4
	DENTAL LABS/CLINICS/OFFICES	3,602	1,166	4,768	5.0	15.2
	MEDICAL LABS/CLINICS	2,585	1,832	4,417	1.6	13.2
	COMMUNITY PHARMACIES	1,588	1,017	2,605	4.8	12.3
	HEALTH UNIT OFFICES	1,761	1,181	2,942	3.5	8.7
	AMBULANCE OPERATORS	941	1,270	2,211	4.7	9.6
	GROUP HOMES	1,472	290	1,762	3.8	22.6
	AADAC/FCSS*	1,175	797	1,972	3.4	12.9
	POST-SECONDARY INSTITUTIONS	884	289	1,173	3.8	3.1
	EYE CARE OFFICES	1,111	311	1,422	2.9	17.6
	SCHOOL BOARDS	844	400	1,244	0.6	2.2
	INDUSTRIAL/OCC. HEALTH FIRMS	256	143	399	2.5	12.1
	PRIVATE PHYSIOTHERAPISTS	424	287	711	9.1	17.0
	PRIVATE PSYCHOLOGISTS	270	287	557	2.7	2.1
	HW CANADA/INDIAN AFFAIRS	377	21	398	3.5	5.4
TOTAL FOR ALL EMPLOYER GROUPS		53,742	26,513	80,255	5.4	14.0

* AADAC - Alberta Alcohol and Drug Abuse Commission
FCCS - Family and Community Support Services

APPENDIX 1. ESTIMATED NUMBER OF UNREPORTED PERMANENT PERSONNEL RESULTING FROM SURVEY NON-RESPONSES MARCH 31, 1989

EMPLOYER GROUP	NUMBER EMPLOYERS NOT RESPONDING	ESTIMATED NUMBER OF UNREPORTED PERSONNEL*	NUMBER OF REPORTED PERSONNEL	% OF UNREPORTED TO REPORTED PERSONNEL
AADAC/FCSS**	0	0	1972	0.0
AMBULANCE OPERATORS	0	0	2211	0.0
COMMUNITY AGENCIES	0	0	5175	0.0
CORRECTIONAL CENTRES	0	0	2179	0.0
DAYCARE CENTRES	26	260	6213	4.2
DENTAL LABORATORIES	4	18	519	3.5
DENTISTS' OFFICES	10	64	3923	1.6
DENTURE CLINICS	3	4	326	1.2
DEPARTMENT OF HEALTH	0	0	983	0.0
GROUP HOMES	0	0	1762	0.0
HEALTH UNIT OFFICES	0	0	2942	0.0
HOSPITALS, 0-25 BEDS	0	0	1158	0.0
HOSPITALS, 26-49 BEDS	0	0	2131	0.0
HOSPITALS, 50-99 BEDS	0	0	2576	0.0
HOSPITALS, 100-299 BEDS	0	0	4611	0.0
HOSPITALS, 300+ BEDS	0	0	13489	0.0
HOSPITALS, AUXILIARY	0	0	5271	0.0
HOSPITALS, PSYCHIATRIC	0	0	1236	0.0
HW CANADA/INDIAN AFFAIRS	0	0	398	0.0
MEDICAL CLINICS	5	168	2074	8.1
MEDICAL LABORATORIES	2	19	2343	0.8
NURSING HOMES	0	0	4554	0.0
OPHTHALMIC DISPENSERS	0	0	648	0.0
OPHTHALMOLOGISTS	1	1	237	0.4
OPTOMETRISTS	4	9	537	1.7
PHARMACIES	5	18	2605	0.7
PHYSICAL THERAPISTS	0	0	711	0.0
POST-SECONDARY INSTITUTIONS	0	0	1173	0.0
PRIVATE INDUSTRY	1	4	399	1.0
PSYCHOLOGISTS	3	6	557	1.1
SCHOOL BOARDS	0	0	1244	0.0
DEPT. OF SOCIAL SERVICES	0	0	4098	0.0
TOTAL	64	571	80255	0.7

* The estimated number of unreported permanent personnel for 1989 is based on the number of personnel reported by the employer in the 1988 Survey of Health and Social Service Personnel Working in Alberta. If no data is available for 1988, then the number of unreported personnel is estimated from the average number of personnel employed by the same employer group in 1989.

** Alberta Alcohol and Drug Abuse Commission/Family and Community Support Services.

APPENDIX 2
HEALTH AND SOCIAL SERVICE OCCUPATION DATA SUMMARY--MARCH 31, 1989*

		FULL-TIME PERSONNEL	PART-TIME PERSONNEL	TOTAL PERSONNEL	FTE POSITIONS	FTE VACANT POSITIONS	VACANCY RATE (%)	FTE RESIGNATION	TURNOVER RATE (%)**
ALL HEALTH/SOCIAL SERVICE OCCUPATIONS		53,742	26,513	80,255	70,837	3,839	5.4	9,578	14.0
Ambulance Personnel (Paid)	Total	948	590	1,538	1,306	63	4.8	139	10.6
	Standard St. John Ambul. Cert.	99	155	254	184	7	3.8	12	6.5
	Advanced St. John Ambul. Cert.	30	31	61	46	0	0.0	3	6.6
	Emergency Medical Tech.-Ambulance	475	251	726	637	37	5.7	79	12.3
	Emergency Medical Tech.-Paramedic	300	63	363	351	19	5.4	35	10.0
	Other Ambulance Personnel	44	90	134	89	0	0.0	11	11.8
Ambulance Personnel (Volunteer)	Total	0	623	623	325	13	4.0	20	6.2
	Standard St. John Ambul. Cert.	0	388	388	202	8	4.0	11	5.2
	Advanced St. John Ambul. Cert.	0	39	39	21	2	7.1	3	14.3
	Emergency Medical Tech.-Ambulance	0	91	91	48	2	4.2	2	4.2
	Emergency Medical Tech.-Paramedic	0	3	3	2	0	0.0	0	0.0
	Other Ambulance Personnel	0	102	102	53	2	2.9	5	8.6
Child/Youth Care Personnel	Total	1,376	449	1,825	1,674	74	4.4	456	27.2
	Hospital Child Care Workers	27	7	34	33	2	6.2	4	12.3
	Baccalaureate in Child Care	25	7	32	29	0	0.0	4	14.0
	Related Baccalaureate or Masters	314	45	359	345	8	2.3	121	35.1
	Child/Youth Care (Diploma)	355	80	435	418	23	5.4	114	27.2
	Child/Youth Care (Related Diploma)	182	26	208	211	16	7.4	49	23.3
	Child/Youth Care (Unrelated Diploma)	91	14	105	100	2	2.0	19	18.5
	Child/Youth Care Workers (Other)	290	208	498	403	9	2.2	125	31.0
	Houseparents	92	62	154	138	15	10.5	21	15.3

(CONTINUED)

*Definitions for FTE POSITIONS, FTE VACANT POSITIONS, FTE RESIGNATIONS, VACANCY RATES, and TURNOVER RATES are given on page 37.

**One large hospital (+300 beds) did not report the number of resignations occurring between April 1, 1988 and March 31, 1989. The full-time equivalent positions reported by this hospital (total FTEs=2,182) were excluded from all turnover rate calculations.

APPENDIX 2
HEALTH AND SOCIAL SERVICE OCCUPATION DATA SUMMARY--MARCH 31, 1989*

		FULL-TIME PERSONNEL	PART-TIME PERSONNEL	TOTAL PERSONNEL	FTE POSITIONS	FTE VACANT POSITIONS	VACANCY RATE (%)	FTE RESIGNATION	TURNOVER RATE (%)**
Correctional Personnel	Total	1,792	52	1,844	1,856	38	2.0	87	4.7
	Correctional Service Worker	509	17	526	533	15	2.8	29	5.4
	Correctional Officer/Security Guard	1,283	35	1,318	1,324	23	1.7	58	4.3
Day Care Personnel	Total	5,218	1,003	6,221	5,918	198	3.3	1,689	28.5
	Director (B.Ed. Child Educ.)	53	2	55	55	1	0.9	19	33.9
	Director (Diploma Child Educ.)	124	6	130	132	5	3.8	16	12.1
	Director (Cert. Child Educ.)	113	9	122	120	2	1.7	13	10.9
	Director (Other Day Care Cert.)	43	0	43	43	0	0.0	4	9.3
	Director (Related Degree/Diploma)	124	2	126	126	1	0.8	13	10.3
	Director (Unrelated Degree)	35	1	36	36	0	0.0	4	11.3
	Director (Other)	208	11	219	214	0	0.0	10	4.7
	Child Care Worker (B.Ed. Child Educ.)	143	16	159	155	4	2.6	19	12.3
	Child Care Worker (Diploma Child Educ.)	513	31	544	571	43	7.4	103	18.0
	Child Care Worker (Cert. Child Educ.)	506	37	543	567	42	7.4	91	16.1
	Child Care Worker (Other Day Care Cert.)	147	11	158	156	3	1.9	19	11.9
	Child Care Worker (Related Degree/Dip.)	246	37	283	272	7	2.6	57	20.8
	Child Care Worker (Unrelated Degree)	114	45	159	139	2	1.4	80	57.8
	Child Care Worker (Other)	2,849	795	3,644	3,336	89	2.7	1,242	37.2
Dental Assistants	Total	1,743	425	2,168	2,023	67	3.3	322	15.9

(CONTINUED)

*Definitions for FTE POSITIONS, FTE VACANT POSITIONS, FTE RESIGNATIONS, VACANCY RATES, and TURNOVER RATES are given on page 37.

**One large hospital (+300 beds) did not report the number of resignations occurring between April 1, 1988 and March 31, 1989. The full-time equivalent positions reported by this hospital (total FTEs=2,182) were excluded from all turnover rate calculations.

APPENDIX 2
HEALTH AND SOCIAL SERVICE OCCUPATION DATA SUMMARY--MARCH 31, 1989*

		FULL-TIME PERSONNEL	PART-TIME PERSONNEL	TOTAL PERSONNEL	FTE POSITIONS	FTE VACANT POSITIONS	VACANCY RATE (%)	FTE RESIGNATION	TURNOVER RATE (%)**
Dental Assistants	On-the-job-trained	446	144	590	524	6	1.1	91	17.3
	Certified with intra-oral training	1,165	247	1,412	1,348	60	4.4	202	15.0
	Certified without intra-oral training	132	34	166	151	2	1.3	30	19.5
Dental Hygienists	Total	378	359	737	665	108	16.2	107	16.1
	Dental Hygienist	378	359	737	665	108	16.2	107	16.1
Dental Technicians	Total	478	39	517	527	30	5.6	65	12.2
	Registered Dental Tech.	144	12	156	160	10	6.2	8	5.0
	Non-Registered Dental Tech.	334	27	361	367	20	5.3	57	15.4
Denturists	Total	203	23	226	220	5	2.3	9	3.9
	Certified Denturist	166	16	182	175	1	0.6	7	3.7
	Non-Certified Denturist	37	7	44	45	4	9.0	2	4.5
Dietary Personnel	Total	2,114	2,044	4,158	3,320	184	5.5	447	14.3
	Dietary Technologist	207	72	279	253	10	3.8	25	10.6
	Dietary Aide/Service Worker	1,484	1,767	3,251	2,505	137	5.5	350	14.6
	Dietitian	187	105	292	258	19	7.2	33	13.9
	Nutritionist	29	9	38	35	1	2.9	4	11.6
	Other Dietary Personnel	207	91	298	270	18	6.5	36	15.7
Eye Care Personnel	Total	871	188	1,059	995	30	3.0	141	14.2
	Ophthalmic Dispensers (Certified)	342	32	374	364	6	1.6	46	12.5
	Ophthalmic Dispensers (Non-Certified)	264	38	302	296	13	4.2	49	16.6
	Ophthalmic Assistants	71	29	100	88	2	2.3	15	16.6

(CONTINUED)

*Definitions for FTE POSITIONS, FTE VACANT POSITIONS, FTE RESIGNATIONS, VACANCY RATES, and TURNOVER RATES are given on page 37.

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		FULL-TIME PERSONNEL	PART-TIME PERSONNEL	TOTAL PERSONNEL	FTE POSITIONS	FTE VACANT POSITIONS	VACANCY RATE (%)	FTE RESIGNATION	TURNOVER RATE (%)**
Eye Care Personnel	Optometric Assistants	185	83	268	236	9	3.8	32	13.6
	Orthoptists	9	6	15	13	1	4.0	0	0.0
Health Records Personnel	Total	582	255	837	733	23	3.1	68	10.1
	Health/Medical Records Adm./Librarian	119	21	140	132	2	1.5	18	13.7
	Health/Medical Record Tech.	240	115	355	306	8	2.6	18	6.8
	Medical Dicta-Typist/Transcriptionist	203	105	308	269	13	4.8	32	12.5
	Other Health Care Records Personnel	20	14	34	27	0	0.0	1	1.9
Home Care Personnel	Total	378	1,341	1,719	1,095	46	4.2	176	16.1
	Homemakers	193	867	1,060	646	19	2.9	118	18.2
	Homehelpers	118	293	411	281	16	5.7	29	10.3
	Personal Care Attendants	67	181	248	169	11	6.5	30	17.5
Lab/X-Ray/Diag/Therapeutic Personnel	Total	4,014	1,620	5,634	5,068	244	4.8	563	11.9
	Combined Lab/X-Ray Tech.	207	159	366	291	5	1.5	37	12.5
	Medical Lab. Scientist	47	4	51	50	1	1.0	4	8.3
	Medical Lab. Tech.	1,872	691	2,563	2,277	59	2.6	229	10.6
	Medical Lab. Asst.\Aide	555	268	823	706	17	2.3	99	14.5
	Electroencephalographic (EEG) Tech.	22	12	34	44	16	35.6	3	10.9
	Respiratory Therapist	345	85	430	466	78	16.8	54	13.5
	Electrocardiographic (ECG/EKG) Tech.	52	20	72	67	5	6.8	6	9.5
	Dialysis Tech.	14	0	14	15	1	6.7	1	3.3

(CONTINUED)

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APPENDIX 2
HEALTH AND SOCIAL SERVICE OCCUPATION DATA SUMMARY--MARCH 31, 1989*

		FULL-TIME PERSONNEL	PART-TIME PERSONNEL	TOTAL PERSONNEL	FTE POSITIONS	FTE VACANT POSITIONS	VACANCY RATE (%)	FTE RESIGNATION	TURNOVER RATE (%)**
Lab/X-Ray/Diag/Therapeutic Personnel	Orthopaedic Asst./Tech.	16	1	17	17	0	0.0	2	13.0
	Radiographic (X-Ray) Tech.	559	314	873	760	44	5.8	78	11.1
	Nuclear Medicine Tech.	77	13	90	88	4	4.6	15	19.0
	Radiation Oncology Tech.	39	15	54	48	2	3.1	10	20.8
	Diagnostic Medical Sonograhers	108	28	136	136	14	10.0	23	18.1
	Other Lab./X-Ray Personnel	101	10	111	108	2	1.4	6	5.1
Registered Nursing Personnel	Total	10,389	7,421	17,810	15,364	1,265	8.2	1,749	12.4
	Intensive Care Unit	841	447	1,288	1,192	127	10.7	138	12.6
	Operating Room	421	258	679	590	40	6.7	49	9.8
	Recovery Room	78	98	176	140	13	9.0	8	7.4
	Intravenous Therapy	17	25	42	31	2	4.8	0	0.0
	Medical/Surgical	2,320	1,886	4,206	3,664	401	10.9	487	15.6
	Maternal/Child	339	312	651	552	57	10.2	43	8.3
	Emergency Room	285	301	586	474	39	8.1	48	12.1
	Psychiatric Ward	437	195	632	602	67	11.1	64	11.9
	Pediatrics	372	256	628	568	68	11.9	70	13.2
	Nursing Education	610	195	805	763	55	7.2	61	8.0
	Administration	1,437	222	1,659	1,640	92	5.6	125	8.1
	Community/Public Health	529	220	749	645	6	0.9	37	5.7
	Home Care	249	330	579	420	6	1.4	35	8.3
	Offices and Clinics	312	367	679	504	9	1.7	81	16.0
	RN - Other	147	141	288	237	20	8.2	23	10.8

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*Definitions for FTE POSITIONS, FTE VACANT POSITIONS, FTE RESIGNATIONS, VACANCY RATES, and TURNOVER RATES are given on page 37.

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APPENDIX 2
HEALTH AND SOCIAL SERVICE OCCUPATION DATA SUMMARY--MARCH 31, 1989*

		FULL-TIME PERSONNEL	PART-TIME PERSONNEL	TOTAL PERSONNEL	FTE POSITIONS	FTE VACANT POSITIONS	VACANCY RATE (%)	FTE RESIGNATION	TURNOVER RATE (%)**
Registered Nursing Personnel	Occupational/Staff Health	180	89	269	232	8	3.2	22	9.8
	Labor Delivery/Recovery Suite	193	135	328	271	11	3.9	24	10.0
	Short Stay Unit	71	55	126	104	6	5.3	5	4.5
	Long Term Care/Rehabilitation	821	1,065	1,886	1,487	133	8.9	232	16.3
	Out-Patient Services	175	143	318	268	22	8.0	12	5.1
	General Duty	555	681	1,236	984	89	9.0	189	19.2
Non-RN Nursing Personnel	Total	5,670	4,564	10,234	8,245	293	3.5	1,026	12.7
	Graduate Nurse	95	71	166	133	2	1.5	18	13.6
	Registered Psychiatric Nurse	571	179	750	700	40	5.6	100	15.1
	Registered Nursing Asst./Orderly	2,167	1,950	4,117	3,323	181	5.4	330	10.1
	Operating Room Tech.	79	70	149	117	3	2.6	8	7.0
	Other Nursing Staff	2,677	2,292	4,969	3,884	61	1.6	569	14.7
	Mental Deficiency Nurse	81	2	83	89	7	7.9	2	2.2
Occupational Health Personnel	Total	57	1	58	60	2	3.4	5	8.4
	Occupational Hygienist	27	1	28	30	2	6.8	5	16.9
	Occupational Hygienist Tech.	30	0	30	30	0	0.0	0	0.0
Pharmaceutical Personnel	Total	1,784	910	2,694	2,377	138	5.8	313	13.5
	Pharmacist	1,383	672	2,055	1,833	114	6.2	234	13.0
	Pharmacy Asst./Tech.	374	232	606	511	21	4.1	76	15.4
	Other Pharmaceutical Personnel	27	6	33	33	3	9.1	3	9.1
Psychological Personnel	Total	1,013	515	1,528	1,328	57	4.3	67	5.1
	Psychologist	687	328	1,015	902	51	5.6	55	6.1

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HEALTH AND SOCIAL SERVICE OCCUPATION DATA SUMMARY--MARCH 31, 1989*

		FULL-TIME PERSONNEL	PART-TIME PERSONNEL	TOTAL PERSONNEL	FTE POSITIONS	FTE VACANT POSITIONS	VACANCY RATE (%)	FTE RESIGNATION	TURNOVER RATE (%)**
Psychological Personnel	Psychological Asst.	63	47	110	89	2	2.3	3	3.6
	Other Pych./Social/Counsellor/Therapist	263	140	403	338	5	1.3	10	2.8
Public Health Personnel	Total	229	12	241	243	8	3.3	14	5.6
	Public Health Inspector	114	2	116	122	7	5.7	10	7.8
	Community Health Rep./Worker	115	10	125	121	1	0.8	4	3.3
Rehabilitation Therapy Personnel	Total	4,655	1,749	6,404	6,102	573	9.4	935	15.6
	Occupational Therapist	285	137	422	410	57	13.8	70	16.3
	Occupational Therapy Asst./Aide	76	33	109	95	2	2.1	12	13.1
	Physical Therapist	613	369	982	968	170	17.6	178	19.4
	Other Physical Therapy Personnel	189	100	289	260	21	8.1	29	11.3
	Speech Pathologist/Therapist	228	93	321	304	30	9.7	34	11.2
	Speech Pathologist Asst./Aide	24	43	67	47	1	2.2	2	4.3
	Clinical Audiologist	24	8	32	31	3	9.7	4	12.1
	Audiometric Tech.	1	1	2	2	0	0.0	0	0.0
	Recreational Therapy Asst./Aide	237	161	398	328	10	3.1	60	18.3
	Prosthetist/Orthotist	28	1	29	34	5	14.9	4	12.7
	Other Prosthetic and Orthotic Personnel	33	3	36	37	2	5.5	4	11.1
	Rehabilitation Practitioner	1,112	353	1,465	1,433	144	10.1	272	19.0
	Remedial Gymnast	6	3	9	8	0	0.0	0	0.0
	Recreational Therapist	237	52	289	280	17	5.9	58	20.8
	Rehabilitation Aide	1,438	376	1,814	1,728	102	5.9	195	11.3

(CONTINUED)

*Definitions for FTE POSITIONS, FTE VACANT POSITIONS, FTE RESIGNATIONS, VACANCY RATES, and TURNOVER RATES are given on page 37.

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APPENDIX 2
HEALTH AND SOCIAL SERVICE OCCUPATION DATA SUMMARY--MARCH 31, 1989*

		FULL-TIME PERSONNEL	PART-TIME PERSONNEL	TOTAL PERSONNEL	FTE POSITIONS	FTE VACANT POSITIONS	VACANCY RATE (%)	FTE RESIGNATION	TURNOVER RATE (%)**
Rehabilitation Therapy Personnel	Other Rehabilitation Personnel	124	16	140	142	10	7.0	16	11.3
Social Service Personnel	Total	517	82	599	578	20	3.4	68	11.8
	Social Service Aide	104	36	140	130	8	5.8	8	5.8
	Alcoholism/Addiction Counsellor	320	32	352	346	10	2.9	55	15.8
	Life Skills Coach	93	14	107	102	2	2.0	6	5.9
Social Work Personnel	Total	2,642	263	2,905	2,919	146	5.0	285	9.9
	Master's of Social Work	453	53	506	529	50	9.4	49	9.4
	Related Master's Degree	80	12	92	88	2	2.3	18	19.9
	Bachelor's of Social Work	862	83	945	958	54	5.6	114	12.0
	Unrelated Master's/Bachelor's Degree	406	39	445	436	11	2.4	33	7.5
	Other Social Worker	481	52	533	520	13	2.5	38	7.3
	Social Services Diploma	360	24	384	389	17	4.2	35	9.0
Program Administration/Clerical Support	Total	6,503	1,930	8,433	7,682	214	2.8	806	10.5
	Administrative Support (Clerical)	5,179	1,799	6,978	6,229	151	2.4	693	11.1
	Program Administrator	1,324	131	1,455	1,453	64	4.4	113	7.7
Other Health Care/Service Personnel	Total	188	55	243	220	5	2.0	26	11.8
	Other Health and Social Service	188	55	243	220	5	2.0	26	11.8

*Definitions for FTE POSITIONS, FTE VACANT POSITIONS, FTE RESIGNATIONS, VACANCY RATES, and TURNOVER RATES are given on page 37.

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Appendix 2

Definition of Terms[1]

1. Full-time Equivalent Positions (FTE)[2]:

   FTE Positions = $\frac{(\text{full-time} + \text{part-time})}{2}$ number of personnel employed + $\frac{(\text{full-time} + \text{part-time})}{2}$ number of vacancies.

2. Full-time Equivalent Vacant Positions:[2]

   FTE Vacant Positions = $\frac{(\text{full-time} + \text{part-time})}{2}$ number of vacancies.

3. Vacancy Rate[3] =

   $$\frac{\text{number of full-time equivalent vacant positions}}{\text{number of full-time equivalent positions}} \times 100$$

4. Full-time Equivalent Resignations[2]:

   FTE Resignations = $\frac{(\text{full-time} + \text{part-time})}{2}$ number of resignations.

5. Turnover Rate[3] =

   $$\frac{\text{number of full-time equivalent resignations}}{\text{number of full-time equivalent positions}} \times 100$$

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[1]Note that the conversion factor of two part-time to one full-time equivalent position used for 1989 represents a change from prior years. Prior to 1989, a conversion factor of 2.38 for registered nurses and a factor of 3 for all other occupations was used to convert part-time positions to full-time equivalent positions.

[2]Full-time equivalent vacancies and full-time equivalent resignations calculated in 1989 are not comparable to the full-time equivalent vacancies and resignations calculated in prior survey years due to the reduction of the part-time conversion factor to 2 in 1989.

[3]For almost all of the occupations included in the survey, the change in the conversion factor to 2 results in a change in the 1989 calculated vacancy and turnover rates of less than 1 percent. Because of this small effect, the vacancy rates and turnover rates calculated in 1989 can be compared to the vacancy rates and turnover rates calculated in prior years. There are a few occupations where the change in the conversion factor has had a notable effect on the turnover rates calculated for 1989. For personal care attendants, the reduction of the conversion factor has an effect on the calculated 1989 turnover rates of approximately 2 percent and for 'other' ambulance personnel the effect is approximately -2 percent. For child care workers (unrelated degree), the effect of the reduced conversion factor on the calculated turnover rate for 1989 is approximately 3 percent.

APPENDIX 3
CASUAL/CONTRACT/TEMPORARY/RELIEF PERSONNEL
EMPLOYED BETWEEN APRIL 1, 1988 AND MARCH 31, 1989:
NUMBER EMPLOYED AND AVERAGE HOURS WORKED BY OCCUPATION
MARCH 31, 1989*

OCCUPATIONAL GROUP		# CASUAL WORKERS	# CASUAL WORKERS WITH HOURS REPORTED	TOTAL CASUAL HOURS REPORTED	MEAN HOURS WORKED PER WORKER	CASUAL HOURS CONVERTED TO F-T WORKER**
TOTAL		12,697	9,379	4,118,528	439.1	2640.1
Child/Youth Care Personnel	Total	351	325	149,768	460.8	96.0
	Hospital Child Care Workers	1	1	920	920.0	0.6
	Related Baccalaureate or Masters	20	18	1,498	83.2	1.0
	Child/Youth Care (Diploma)	33	22	6,127	278.5	3.9
	Child/Youth Care (Related Diploma)	11	11	3,593	326.6	2.3
	Child/Youth Care (Unrelated Diploma)	4	4	600	150.0	0.4
	Child/Youth Care Workers (Other)	267	256	127,829	499.3	81.9
	Houseparents	15	13	9,201	707.8	5.9
Correctional Personnel	Total	24	24	23,937	997.4	15.3
	Correctional Service Worker	7	7	6,874	982.0	4.4
	Correctional Officer/Security Guard	17	17	17,063	1003.7	10.9
Dental Assistants	Total	233	231	29,067	125.8	18.6
	On-the-job-trained	77	75	12,051	160.7	7.7
	Certified with intra-oral training	153	153	16,517	108.0	10.6
	Certified without intra-oral training	3	3	499	166.3	0.3
Dental Hygienists	Total	200	190	28,696	151.0	18.4

(CONTINUED)

*The survey form given to day care centres, ambulance operators, and post-secondary institutions did not include the section on casual/contract/temporary/relief personnel.
**The total number of hours worked by casual personnel is divided by the annual hours worked, 1,560 (based on a 30 hour work week), by one full-time worker. This computation equates the total number of casual hours to the number of full-time workers who would be needed to work those casual hours based on a 30 hour work week.

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MARCH 31, 1989*

OCCUPATIONAL GROUP		# CASUAL WORKERS	# CASUAL WORKERS WITH HOURS REPORTED	TOTAL CASUAL HOURS REPORTED	MEAN HOURS WORKED PER WORKER	CASUAL HOURS CONVERTED TO F-T WORKER**
Dental Hygienists	Dental Hygienist	200	190	28,696	151.0	18.4
Dental Technicians	Total	10	9	6,835	759.4	4.4
	Registered Dental Tech.	1	1	12	12.0	0.0
	Non-Registered Dental Tech.	9	8	6,823	852.9	4.4
Denturists	Total	13	13	1,383	106.4	0.9
	Certified Denturist	2	2	28	14.0	0.0
	Non-Certified Denturist	11	11	1,355	123.2	0.9
Dietary Personnel	Total	328	218	138,627	635.9	88.9
	Dietary Technologist	7	5	2,274	454.8	1.5
	Dietary Aide/Service Worker	251	168	112,340	668.7	72.0
	Dietitian	57	44	22,665	515.1	14.5
	Other Dietary Personnel	13	1	1,348	1348.0	0.9
Eye Care Personnel	Total	25	23	8,612	374.4	5.5
	Ophthalmic Dispensers (Certified)	5	5	2,415	483.0	1.5
	Ophthalmic Dispensers (Non-Certified)	7	7	4,003	571.9	2.6
	Optometric Assistants	11	9	1,460	162.2	0.9
	Orthoptists	2	2	734	367.0	0.5
Health Records Personnel	Total	13	13	3,396	261.2	2.2

(CONTINUED)

*The survey form given to day care centres, ambulance operators, and post-secondary institutions did not include the section on casual/contract/temporary/relief personnel.
**The total number of hours worked by casual personnel is divided by the annual hours worked, 1,560 (based on a 30 hour work week), by one full-time worker. This computation equates the total number of casual hours to the number of full-time workers who would be needed to work those casual hours based on a 30 hour work week.

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NUMBER EMPLOYED AND AVERAGE HOURS WORKED BY OCCUPATION
MARCH 31, 1989*

OCCUPATIONAL GROUP		# CASUAL WORKERS	# CASUAL WORKERS WITH HOURS REPORTED	TOTAL CASUAL HOURS REPORTED	MEAN HOURS WORKED PER WORKER	CASUAL HOURS CONVERTED TO F-T WORKER**
Health Records Personnel	Health/Medical Record Tech.	4	4	1,015	253.8	0.7
	Medical Dicta-Typist/Transcriptionist	9	9	2,381	264.6	1.5
Home Care Personnel	Total	262	197	123,804	628.4	79.4
	Homemakers	88	88	59,155	672.2	37.9
	Homehelpers	171	106	62,012	585.0	39.8
	Personal Care Attendants	3	3	2,637	879.0	1.7
Lab/X-Ray/Diag/Therapeutic Personnel	Total	243	182	84,088	462.0	53.9
	Combined Lab/X-Ray Tech.	19	16	5,102	318.9	3.3
	Medical Lab. Scientist	1	1	32	32.0	0.0
	Medical Lab. Tech.	93	66	43,651	661.4	28.0
	Medical Lab. Asst.\Aide	34	31	15,520	500.6	9.9
	Respiratory Therapist	27	15	4,803	320.2	3.1
	Electrocardiographic (ECG/EKG) Tech.	1	1	93	93.0	0.1
	Radiographic (X-Ray) Tech.	54	41	12,900	314.6	8.3
	Diagnostic Medical Sonograhers	6	6	1,616	269.3	1.0
	Other Lab./X-Ray Personnel	8	5	371	74.2	0.2
Registered Nursing Personnel	Total	5,311	3,466	1,323,122	381.7	848.2
	Registered Nurses	5,311	3,466	1,323,122	381.7	848.2

(CONTINUED)

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APPENDIX 3
CASUAL/CONTRACT/TEMPORARY/RELIEF PERSONNEL
EMPLOYED BETWEEN APRIL 1, 1988 AND MARCH 31, 1989:
NUMBER EMPLOYED AND AVERAGE HOURS WORKED BY OCCUPATION
MARCH 31, 1989*

OCCUPATIONAL GROUP		# CASUAL WORKERS	# CASUAL WORKERS WITH HOURS REPORTED	TOTAL CASUAL HOURS REPORTED	MEAN HOURS WORKED PER WORKER	CASUAL HOURS CONVERTED TO F-T WORKER**
Non-RN Nursing Personnel	Total	2,621	1,818	909,433	500.2	583.0
	Graduate Nurse	2	2	1,242	621.0	0.8
	Registered Psychiatric Nurse	70	68	24,396	358.8	15.6
	Registered Nursing Asst./Orderly	1,504	965	512,682	531.3	328.6
	Operating Room Tech.	4	3	1,150	383.3	0.7
	Other Nursing Staff	1,041	780	369,963	474.3	237.2
Occupational Health Personnel	Total	2	2	2,838	1419.0	1.8
	Occupational Hygienist Tech.	2	2	2,838	1419.0	1.8
Pharmaceutical Personnel	Total	468	432	121,273	280.7	77.7
	Pharmacist	439	408	110,396	270.6	70.8
	Pharmacy Asst./Tech.	29	24	10,877	453.2	7.0
Psychological Personnel	Total	196	157	37,581	239.4	24.1
	Psychologist	154	126	21,474	170.4	13.8
	Psychological Asst.	10	9	1,060	117.8	0.7
	Other Pych./Social/Counsellor/Therapist	32	22	15,047	684.0	9.6
Public Health Personnel	Total	25	25	39,700	1588.0	25.4
	Public Health Inspector	2	2	1,244	622.0	0.8
	Community Health Rep./Worker	23	23	38,456	1672.0	24.7

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OCCUPATIONAL GROUP		# CASUAL WORKERS	# CASUAL WORKERS WITH HOURS REPORTED	TOTAL CASUAL HOURS REPORTED	MEAN HOURS WORKED PER WORKER	CASUAL HOURS CONVERTED TO F-T WORKER**
Rehabilitation Therapy Personnel	Total	1,210	1,072	579,228	540.3	371.3
	Occupational Therapist	48	37	12,541	338.9	8.0
	Occupational Therapy Asst./Aide	1	1	200	200.0	0.1
	Physical Therapist	213	169	55,578	328.9	35.6
	Other Physical Therapy Personnel	33	32	9,236	288.6	5.9
	Speech Pathologist/Therapist	40	35	7,940	226.9	5.1
	Speech Pathologist Asst./Aide	4	3	1,529	509.7	1.0
	Audiometric Tech.	1	1	207	207.0	0.1
	Recreational Therapy Asst./Aide	61	10	5,545	554.5	3.6
	Prosthetist/Orthotist	2	2	889	444.5	0.6
	Other Prosthetic and Orthotic Personnel	1	1	256	256.0	0.2
	Rehabilitation Practitioner	139	123	46,393	377.2	29.7
	Recreational Therapist	15	12	6,672	556.0	4.3
	Rehabilitation Aide	638	633	423,762	669.5	271.6
	Other Rehabilitation Personnel	14	13	8,480	652.3	5.4
Social Service Personnel	Total	120	104	119,227	1146.4	76.4
	Social Service Aide	26	26	13,798	530.7	8.8
	Alcoholism/Addiction Counsellor	91	75	103,209	1376.1	66.2

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OCCUPATIONAL GROUP		# CASUAL WORKERS	# CASUAL WORKERS WITH HOURS REPORTED	TOTAL CASUAL HOURS REPORTED	MEAN HOURS WORKED PER WORKER	CASUAL HOURS CONVERTED TO F-T WORKER**
Social Service Personnel	Life Skills Coach	3	3	2,220	740.0	1.4
Social Work Personnel	Total	215	184	126,571	687.9	81.1
	Master's of Social Work	2	2	359	179.5	0.2
	Bachelor's of Social Work	10	10	2,128	212.8	1.4
	Unrelated Master's/Bachelor's Degree	7	5	2,998	599.6	1.9
	Other Social Worker	183	155	112,052	722.9	71.8
	Social Services Diploma	13	12	9,034	752.8	5.8
Program Administration/Clerical Support	Total	768	636	248,818	391.2	159.5
	Administrative Support (Clerical)	716	594	208,567	351.1	133.7
	Program Administrator	52	42	40,251	958.4	25.8
Other Health Care/Service Personnel	Total	59	58	12,524	215.9	8.0
	Other Health and Social Service	59	58	12,524	215.9	8.0

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